



AP SIT

(ALL BRANCHES NBA ACCREDITED)

DEPARTMENT OF
INFORMATION
TECHNOLOGY

INDUSTRIAL
COLLABORATIONS

ACHIEVEMENTS

ACADEMIC
INITIATIVES

BITS & BYTES

2019-20

MOMENT
OF PRIDE

STUDENT
ARTICLES

EVENTS,
WORKSHOPS
& TRAININGS

Editorial



Prof. Neha Deshmukh
Magazine Editor



Prof. Anagha Aher
Editor-In-Chief



Prof. Apeksha Mohite
Director



Ms. Shweta Mahajan
Magazine Co-Editor



Prof. Sonal Jain
Co-Editor-In-Chief



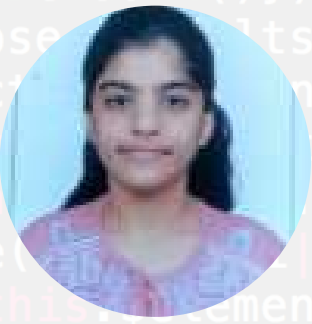
Rutwik G.
Magazine Head



Chinmay D.
Magazine Co-Head



Parvi A.
Content Editor



Tanaya P.
Associate Editor



Tejas R.
Graphic Designer



Soham D.
Art Director

Principal's Desk



I am glad to announce the release of our institute's Department of Information Technology's magazine "Bits & Bytes" for the third consecutive year. The magazine embarks and works towards fulfilment of their prime vision to transform students into globally competent IT professionals. This magazine is an inspiration for students and faculties to stay ambitious and target higher goals. We look forward for successful journey of our young aspiring engineers. The diligent efforts of Editorial Board behind this magazine are highly appreciable. I would also like to congratulate the students and faculties on their accomplishments and wish them luck on their future endeavours.

- Dr. Uttam D. Kolekar

Principal

HOD's Desk



With great pleasure and pride we are here with the subsequent edition of our Information Technology Department magazine "Bits & Bytes. This magazine highlights the outstanding accomplishments achieved by our students and faculties during Academic Year 19-20. One of the prestigious achievement is the NBA Accreditation received by the department which was only possible with unanimous efforts of our faculties and dear students. It indeed makes me feel happy to portray how well the students have utilized various academic initiatives and industrial collaborations for value added knowledge at optimum level. As we thrive hard to achieve our objective, to turn the challenges of the changing world into wisdom of opportunity for the future, we also believe in inculcating our students with moral ethics which will turn them into responsible citizens. Harmonious bond among students and faculties will aid department to attain the set goals and progress collaboratively. I congratulate the entire Editorial Team for their efforts and zeal to compile this magazine. I would also like to wish them luck for their future venture.

- Prof. Kiran Deshpande
HOD,
Department of Information Technology .

INSTITUTE'S

VISION

APSIT aspires to be a premier institute producing globally competent engineering professionals to contribute towards socio-economic growth of India.

MISSION

To provide conducive and collaborative environment to meet contemporary & future Engineering challenges by project based and value-added education with the support of trained faculty.

DEPARTMENT'S

VISION

To be a prime center of excellence by transforming students into globally competent IT Professionals.

MISSION

Mission 1: To develop, support and maintain state-of-art infrastructure to serve as a potent resource hub for the IT industries.

Mission 2: To inculcate the problem solving, analytical, logical skills and to promote the culture of creativity and innovation among the students.

Mission 3: To adapt with the transformation of the technology emphasizing on interdisciplinary studies , exposure to emerging technologies and imbibing high standards of professional ethics and social responsibilities in all endeavors

Department PEO

PEO 1 PREPARATION: To make students competent for higher studies and employable, to meet industrial requirements.

PEO2 CORE COMPETENCE: To develop students having core competence in science, mathematics and fundamentals of Information Technology to address everchanging industrial requirements globally.

PEO 3 BREADTH: To create academically conducive environment to learn engineering skills in the domains such as Database, Data Analytics, Application Development and Allied Technologies.

PEO 4 PROFESSIONALISM: To enrich students with professional ethics, leadership qualities, and entrepreneurial skills.

PEO 5 LIFE LONG LEARNING: An ability to engage in lifelong learning for effective adaptation to technological developments.

Department PSO

Program Specific Outcomes

PSO1 To use modern computer languages, environments and platforms in creating innovative carrier paths in the areas of database, data analysis and application development.

PSO2 To apply theoretical foundations of Information technology in developing solutions for engineering problems that meet automation needs of industry and society.

PSO3 To design and implement efficient real-time solutions using evolving knowledge of information technology by demonstrating the practices of professional ethics and the concern for societal and environment well being.



Department Infrastructure

Academic Infrastructure

- Air Conditioned Classrooms and Tutorial Rooms equipped with LCD Projectors and Smartboards.
- Well equipped Air Conditioned Laboratories connected to Centralized Server Room.
- Media Equipped Air Conditioned Seminar hall.
- Online Departmental Library Management System.

Computational Facility

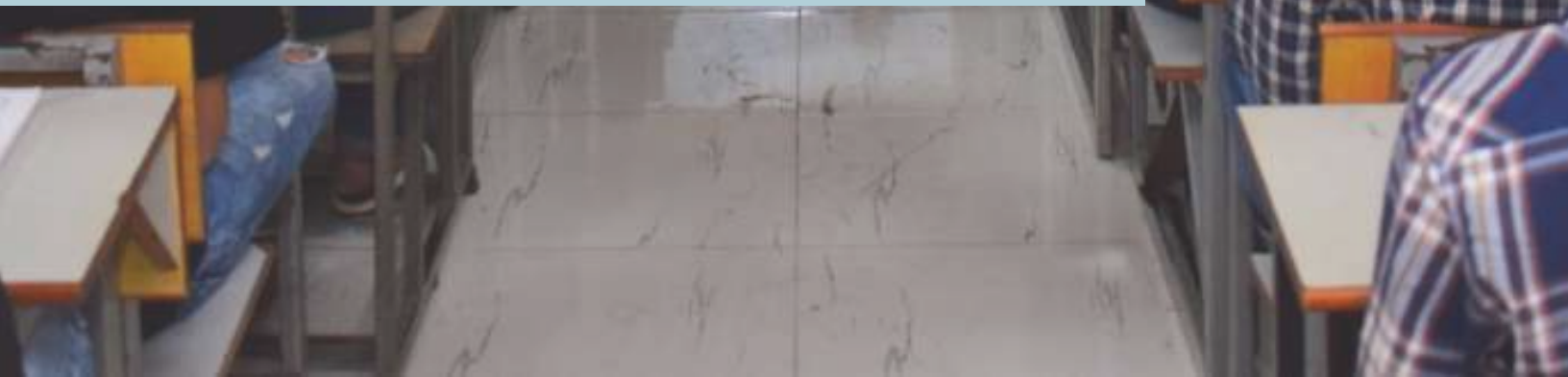
- Number of Computational Nodes available in Department: 300.
- Number of Blade Server Systems: 05
- PC to Student ratio: 1:1.
- Dedicated leased line of Internet.
- Wi-Fi Access & CCTV Surveillance.

Highlights

- Use & accessibility of remote servers during laboratory sessions.
- E-Learning facility with Moodle.
- Online Tests for Self Assessment.
- Virtual Classroom & Web Conferencing facility for Query Sessions.
- Authentication based Internet access and printing facility for students.
- Cloud Storage for Students.
- Online Lab assignments submission & assessment with feedback. (E-assessment).
- Online Academic Feedback facility for Students.
- Lab availability for students after academic hours.
- Expert Talks, Value addition Programs & Project Based Learning.



Academics



Results for A.Y. 2019-2020

ODD Semester

SEIT

Name	CGPA
Parvi Agrawal	9.92
Krishita Tolia	9.54
Swapnil Sapre	9.5
Jash Seth	9.5
Aditya Shinde	9.24

TEIT

Name	CGPA
Sanjana Nalawade	9.85
Akshata Singh	9.54
Tejas Khanted	9.38
Abhishek Rai	9.27
Shreya Bhutada	9.08
Mandar Kumbhar	9.08

BEIT

Name	CGPA
Varsha Naik	9.62
Dhananjay Yadav	9.31
Surbhi Saroliya	9.19
Debashish Choudhury	9.00
Jyoti Tiwari	8.96

Results for A.Y.2019-2020

EVEN Semester

SEIT

Name	CGPA
Parvi Agrawal	10
Samyak Doshi	10
Akshata Gawas	10
Pratik Gholap	10
Dhruva Mhatre	10
Swapnil Sapre	10
Jash Seth	10
Krishita Tolia	10
Aditya Shinde	10

TEIT

Name	CGPA
Shreya Bhutada	10
Tejas Khanted	10
Mandar Kumbhar	10
Sanjana Nalawade	10
Abhishek Rai	10
Shefali Rane	10
Akshata Singh	10

BEIT

Name	CGPA
Varsha Naik	9.34
Yogendra Kokamkar	9.16
Jyoti Tiwari	8.93
Mahek Jain	8.92
Sudama Jaiswal	8.65

Perfect 10

Mandar Kumbhar

For this achievement I would like to thank the institute, faculty members and also my parents for their efforts and support. This 6th semester was during the pandemic. It forced all the universities around the world to shut down their campuses indefinitely and move their educational activities onto online platforms. It was not easy as no one was prepared for such a transition. However our Institute and all faculty members were extremely helpful in



supplying constant support, offered a variety of resources to aid our learning and used modern communication technology to support learning. They not only focused on theory lectures but also provided us with practical knowledge which helped in better understanding of concepts. I just want to say whatever be the situation, dedication to learn and with enough support you can help achieve anything.

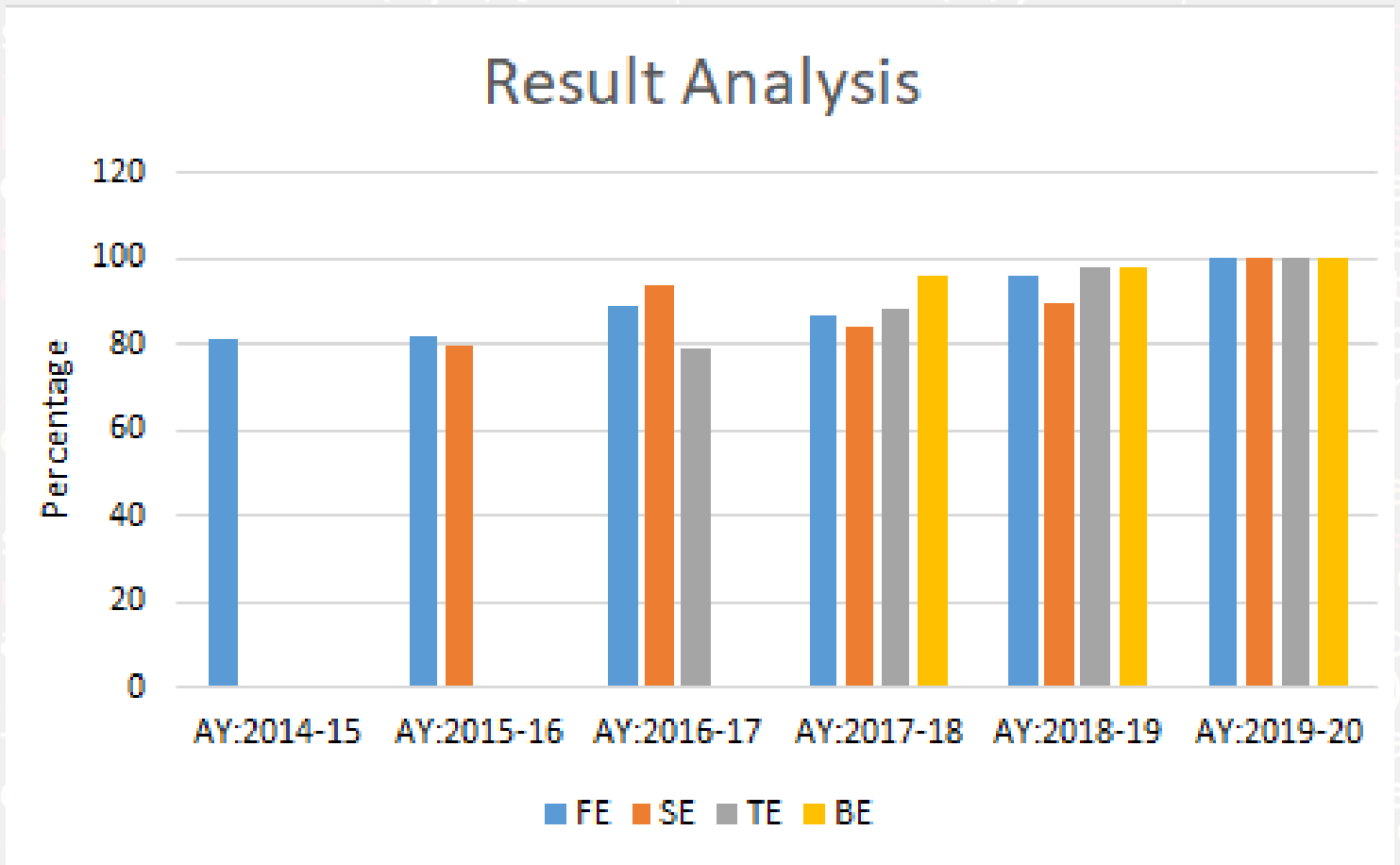


Parvi Agrawal

Scoring 10 pointer was an achievement and I would like to thank my parents and faculties for their support. Studying in the lecture hours and lab hours was sufficient. Syllabus was covered in Unit Test I and II, so I didn't feel burdened while semester exams. I was not serious but I was very sincere about exams always paid attention

to teacher's advice. I focused on the mistakes that I did in Unit Tests or previous semester and learned from them. Managing time during the exam and revising the syllabus is key point. Notes provided by the faculties were sufficient and to the point so I didn't feel the need to access any other resource material or to join any extra class. Everything was systematic, so I participated in other activities and focused on studies also. I would like to say "Always learn from your mistakes and don't repeat them."

Result Analysis



Testimony

"Department is said to have thrived hard when the faculty and students produce results that are visible. We honor the academic achievements of students, who have excelled in their endeavors and we are immensely proud of their success. This has been possible because of smart, innovative teaching methodologies & time intensive planning & efforts put in by faculties & students."

- By Prof. Neha Deshmukh, Exam Coordinator.



Student Achievements

III Bombay Spoke

Date
24th Septembe

Technical

100+ Technical Courses through Coursera Campus Program

- Parvi Agrawal

Result

Completed

E-Yantra Robotics Championship

Team Members:

- Sanjana Nalawade
- Sithanshu Mathukia
- Himanshu Raut
- Ashutosh Deshpande

Result

Reached Regional Finals

Indo Asian Solar Championship(IASC)

- Sujoy Dev

Result

Winner

Technical

Tejas Raibagi

Event

- Unity Game

Result

Game Published on
Play store C.L.A.S.H.

Akshata Singh

Event

- Electric Bike Racing Challenge
- SAE India 2020 Championship

Result

Winner
Reached Zonal
Round

Soundarya Nevrekar

Event

- Foreign Language JAPANESE

Result

N5 JAPANESE
Language
Proficiency
Certification

Technical

Research Publications

For implementing research-based learning which can develop critical thinking amongst student, we are motivating our student to present and publish paper in well reputed Scopus indexed journals/conferences.

Project Tittle	Team Member	Name of Conference
Appraisal System for Educational Institute	Utkarsh Naik	IEEE-ICETITE, IEEE-ICACCS
	Debashish Choudhury	
	Anagha Devade	
E-Commerce framework for Sales Prediction	Tejal Tandel	IEEE-ICACCS
	Sayali Wagal	
	Nisha Singh	
Sentimental analysis on Social Media	Dilesh Tanna	IEEE-ICICCS
	Mansi Dudhane	
	Amrut Sardar	
Real Time Traffic Management using ML	Jyoti tiwari	IEEE-ICETITE
	Ankita Deshmukh	
	Gayatri Godepure	
Enhancing Data Security in Cloud Using Blockchain	Dhananjay Yadav	IEEE-ICICCS
	Aditi Shinde	
	Akash Nair	
Android Malware Detection using machine learning	Rishab Agarwal	IEEE-ICETITE
	Vishal Shah	
	Sonam Chauvan	
Chatbot for Efficient Resource Allocation and Management	Manasi Ghadge	IEEE-ICICCS
	Gitika Daki	
	Anuja Dhumale	
ML Enabled Surveillance System for Societies	Pranav Chauhan	IEEE-ICETITE
	Sachin Gupta	
	Rohit Arava	
AI Based Self Driving Car	Vinit Shah	IEEE-ICCCSP
	Mahek Jain	
	Hiral Thadeshwar	

Technical

Research Publications

Project Title	Team Member	Name of Conference
Autonetics and Administration for IT Laboratories.	Uddhabendra Maity	IEEE-ICCDW
	Karthikeyan	
	Atharv Shetty	
Expeditious Banking Using Blockchain Technology	Varsha Naik	IEEE-CISPSSE
	Riya Pejawar	
	Rishabh Singh	
Smart Assistive Device for the Visually Impaired	Sameer Dev	IEEE-ICCDW
	Yogendra Kokamkar	
	Sudama Jaiswal	
Parkmania-Parking Management System	Saurabh Sharma	IEEE-ICCDW
	Srinivas Vishwanath	
Dexter-The College FAQ Chatbot	Chaitanya Bysani	IEEE-ICCDW
	Ajinkya Huddar	
	Chintan Suchak	

Technical

Cisco Networking Academy

Course Name

Students Certified

- | | |
|------------------------------------|-----|
| • Cisco Linux Essential | 122 |
| • Programming Essentials in Python | 69 |
| • Introduction to IOT | 75 |
| • CCNA | 61 |



AWS Academy

Course Name

Students Certified

- | | |
|--|----|
| • AWS Cloud Foundations (AWS Cloud Practitioner) | 26 |
|--|----|

Oracle Academy



Course Name

Students Certified

- | | |
|------------------------|-----|
| • Database Foundations | 60 |
| • Database Design | 36 |
| • Java Foundations | 125 |
| • Java Programming | 9 |

Technical

Dell EMC

Course Name

Students Certified

- Data science & Big Data Analytics Certification

30



Blockchain CouncilTM

Blockchain Academy

Course Name

Students Certified

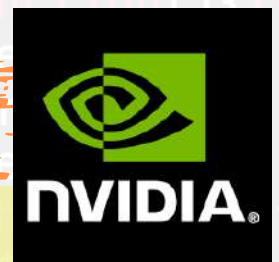
- Blockchain Certified Expert
- Blockchain Certified Architect
- Blockchain Certified Developer

47

11

14

NVIDIA Deep Learning



Course Name

Students Certified

- Fundamentals of Deep Learning for Computer Vision
- Fundamentals of Accelerated Computing with CUDA Python

165

35

Technical

Palo Alto Cybersecurity Academy

Course Name

- Cybersecurity

Students Certified

57



VMware IT Academy

Course Name

- Cloud and Virtualization Concepts
- Network Virtualization Concepts

Students Certified

37

24

The Times of India Quiz-A-Thon

Students Name

- Anita Yadav
- Ankita Deshmukh
- Gautam Chaskar
- Jyoti Tiwari
- Rutwik Gaikwad
- Sakshi Jain

Result

Certified

Technical

Texas Instruments Lab

Students Name	Event	Result
Team 1: Yogendra Kokamkar Sameer Dev Sudama jaiswa	India Innovation Challenge Design Contest	Reached in Semi-Finals
Team 2: Sanjana Nalawade Sitanshu Mathukia Himashu Raut Saundarya Nevrekar Tejas Rabagi Abhishek Jha		Reached in Semi-Finals
Team 3: Rushika Ramane Rutuja Patole Sakshi Naik		Reached in Semi-Finals
Team 4: Vedangi Naigaonkar Gautam Chaskar Shreyas Chorge Purvika Gaikar Shifa Tamboli and Ashutosh Deshpande		Reached in Quarter-Finals



Unity Academic Alliance

Course Name

Students Certified

- Unity Academic Alliance

20

Sports

Taekwondo

Players

Sonam Chavan

Event

University Taekwondo
women tournament

Result

Bronze-medal

Sports

Players

Sonam Chavan

Kunal Jadhav

Vaishnavi Potphode

Sonam Chavan

Soham Dhuri

Saloni Rane

Rahul Gandhi

Sayali Phowakande

Soham Dhuri

Mehek Jain

Event

100m Running Event

200m Running Event

400m Running Event

400m Running Event

Badminton Mix Doubles

Badminton Mix Doubles

Carrom

Carrom

Table Tennis BOYS SINGLES & Doubles

Chess

Result

Runner-up

Runner-up

Winner

Winner

Runner-up

Runner-up

Runner-up

Runner-up

Winner

Winner

Sports

VOLLEYBALL

Players

Team

Result

Runner Up

BOX CRICKET (GIRLS)

Players

Team

Result

Runner-up

KABADDI (GIRLS)

Players

Team

Result

Winner



Faculty Achievements

DR. UTTAM D. KOLEKAR

- Chairman, Ad-hoc Board of Studies in Electronics & Telecommunications Engineering, University of Mumbai, from 18 April 2016 to 17 April 2019.
- Revised syllabus from academic year 2016-17 under faculty of Technology 'FE/SE/TE/BE and ME Electronics and Telecommunication Engineering as per the choice-based credit and grading system with effect from AY 2016-17.

Dr. Sameer S. Nanivadekar

- Selected as a member of Core Advisory Committee for Quality Improvement of Technical Education in the state of Maharashtra.
- Coordinator and Organizer of 19th Annual Convention of INDIAN SOCIETY FOR TECHNICAL EDUCATION, 2019.
- 7 Coursera specialization completed in various domains
- 5 Faculty Development Program has been attended.
- Completed Coursera Specialization in Six Sigma Green Belt
- Completed Coursera Specialization in Machine Learning: Algorithms in the real world
- Completed Coursera Specialization in Machine Learning: Algorithms in the real world.
- Completed Coursera Specialization in Leadership Development for Engineers
- Completed Coursera Specialization in Architecting with Google compute Engine

Prof. Kiran B. Deshpande

- Participated in Workshop in Season 6 of Skycampus on the theme Future Tech 2020.
- Participated in Workshop in Season 5 of Skycampus on the theme The Future of Skills - Education, Employment & Entrepreneurship
- Participated in the Big Talk Webinar Series powered by Knimbus
- Paper Presentation in International Conference on Intelligent Computing and Control Systems
- Two Paper Presentation in IEEE International Conference on Convergence to Digital World - Quo Vadis (ICCDW- 2020)

Prof. Sandeep Khuperkar

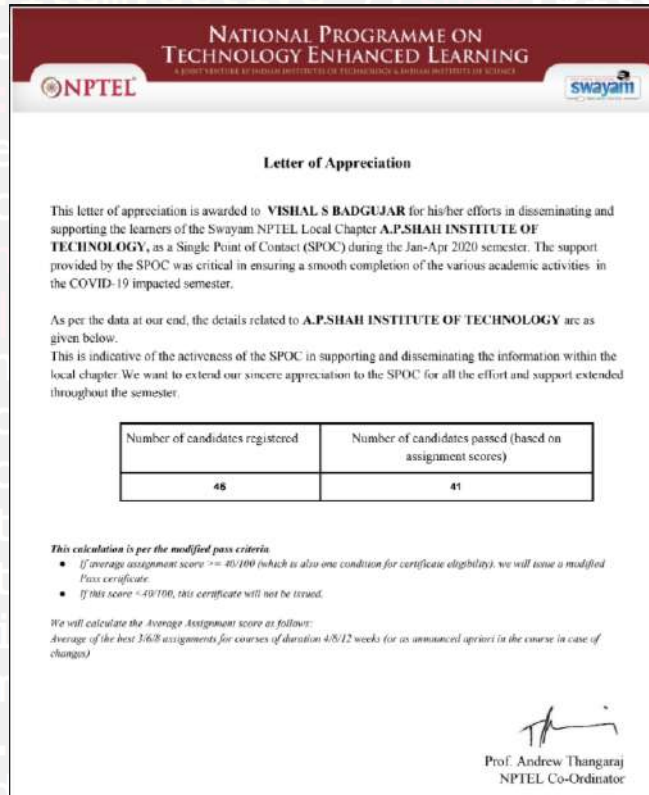
- Mr.Sandeep Khuperkar , Director Ashnik Group & Adjunct Professor @ A.P.Shah Institute of Technology is selected as Exemplary Mentor of Change For Niti Aayog Atal Innovation Mission. He is amongst 27 Mentors selected all over India.





Prof. Vishal Badgujar

- Appreciated by Director, IIT Madras as Active SPOC for both NPTEL Semesters of A.Y. 2019-20 based on Performance & Participation of APSIT Students.



- Appreciated by Director, IIT Madras as Active SPOC for SWAYAM-NPTEL





Prof. Kaushiki Upadhyaya

- Texas Instruments DST, AICTE and IIM-Bangalore and nominated as member of Confederation of Elite Academicians of IICDC



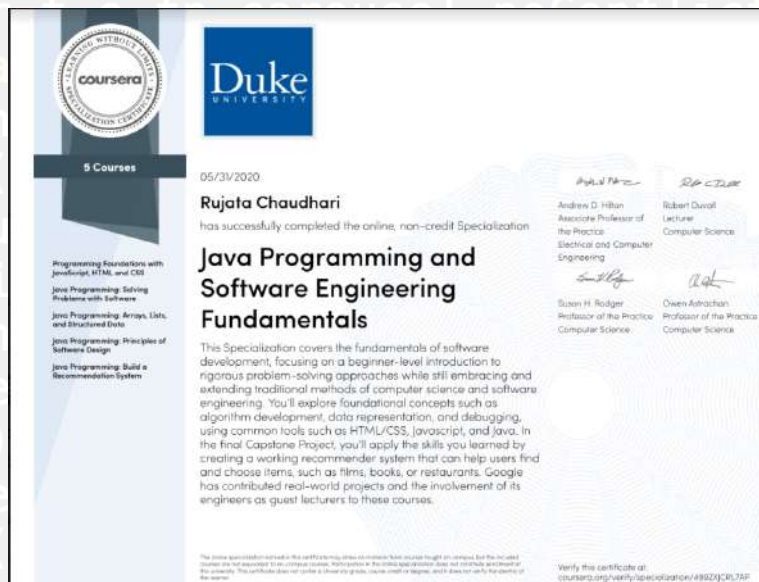
Prof. Neha Deshmukh

- Completed instructor level training for CCNA Global Certification from Cisco networking academy



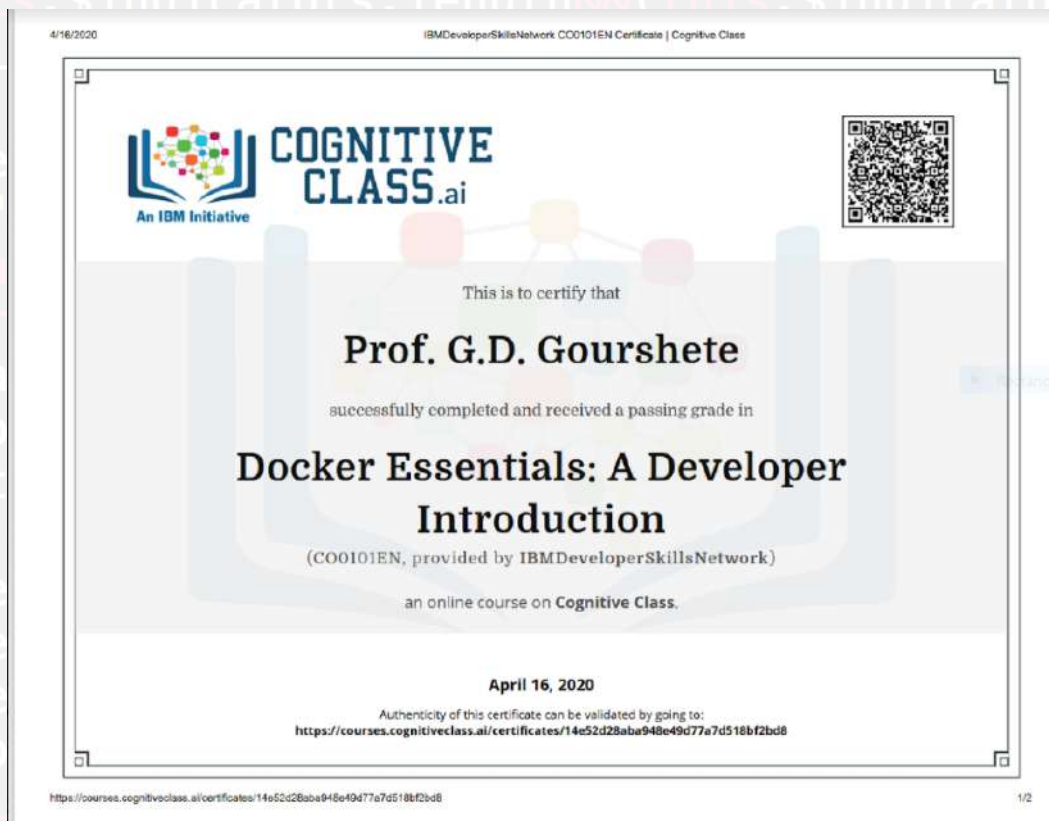
Completion Coursera Specializations

Faculty Name	Course Name
Prof. Vishal Badgujar	Big Data
	Architecting with Google Compute Engine
Prof. Anagha Aher	Python for Everybody
Prof. Geetanjali Kalme	Executive Data Science
	Google IT Support
Prof. Nahid Shaikh	Architecting with Google Compute Engine
Prof. Neha Deshmukh	Google IT Support
Prof. Ganesh Gourshete	Google IT Support
Prof. Rujata Chaudhari	Fundamentals Java Programming and Software Engineering
Ms. Shweta Mahajan	Excel Skills for Business
	Project: Use Canva to Create Social Media Marketing Designs
	Easing the Transition to GIMP for Photoshop Users
	Python for Everybody



Course Completion through IBM Cognitive Class

Faculty Name	Course Name
Prof. Vishal Badgujar	Big Data 101
	Docker Essentials: A Developer Introduction
	Hadoop 101
Prof. Ganesh Gourshete	Docker Essentials: A Developer Introduction
Prof. Neha Deshmukh	Container & Kubernetes Essentials with IBM Cloud
	Docker Essentials: A Developer Introduction



Course Competition through Industrial Collaborations

Faculty Name	Course Name	Completed through this Academy
Prof. Vishal Badgujar	FUNDAMENTALS OF DEEP LEARNING FOR COMPUTER VISION	NVIDIA DEEP LEARNING INSTITUTE
	AI From the Data Center to the Edge-An Optimized Path Using Intel® Architecture	Intel AI
	Introduction to Openshift Applications (DO101)	Red Hat
	Cybersecurity Foundation	Palo Alto Networks cybersecurity Academy
	CorelDRAW	Corel
Prof. Anagha Aher	Python	Kaggle
Prof. Ganesh Gourshete	National Level Online Quiz on E-Learning	PVPP College of Engineering
Prof. Nahid Shaikh	AI From the Data Center to the Edge-An Optimized Path Using Intel® Architecture	Intel AI
Prof. Neha Deshmukh	Introduction to Openshift Applications (DO101)	Red Hat
	Cisco Linux Essential	Cisco Networking academy
	Linux Professional Institute	Cisco Networking academy
	Academy Orientation	Cisco Networking academy

CERTIFICATE OF ATTENDANCE

Neha Deshmukh

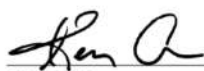
NAME

Introduction to OpenShift Applications (DO101)

COURSE

April 12, 2020

DATE



KEN GOETZ

Vice president, Global Training Services at Red Hat



Research Publications

Paper Title	Name of Faculty	Name of Conference
Appraisal System for Educational Institute	Ms. Anagha Aher & Mr. Vishal Badgujar	IEEE-ICETITE IEEE-ICACCS
E-Commerce framework for Sales Prediction	Ms. Rujata Chaudhary & Mr. Vishal Badgujar	IEEE-ICACCS
Sentimental analysis on Social Media	Mr. Kiran Deshpande & Ms. Neha Deshmukh	IEEE-ICICCS
Real Time Traffic Management using ML	Dr. Uttam Kolekar & Ms. Kaushiki Upadhyaya	IEEE-ICETITE
Enhancing Data Security in Cloud Using Blockchain	Ms. Yamini Patil	IEEE-ICICCS
Android Malware Detection using machine learning	Mr. Ganesh Gourshete	IEEE-ICETITE
Chatbot for Efficient Resource Allocation and Management	Dr. Uttam Kolekar	IEEE-ICICCS
ML Enabled Surveillance System for Societies	Dr. Sameer Nanivadekar & Mr. Vishal Badgujar	IEEE-ICETITE
AI Based Self Driving Car	Ms. Rujata Chaudhary & Mr. Vishal Badgujar	IEEE-ICCCSP
Autonetics and Adminstration for IT Laboratories.	Dr. Sameer Nanivadekar & Mr. Vishal Badgujar	IEEE-ICCDW
Expeditious Banking Using Blockchain Technology	Ms. Anagha Aher	IEEE-CISPSSE
Smart Assistive Device for the Visually Impaired	Mr. Kiran Deshpande	IEEE-ICCDW
Parkmania-Parking Management System	Mr. Kiran Deshpande, Ms. Yamini Patil & Ms. Sneha Kanchan	IEEE-ICCDW
Dexter-The College FAQ Chatbot	Dr. Uttam Kolekar	IEEE-ICCDW

Faculty Development Program



Data Science & Big Data analytics

Training Completed By:

Prof. Nahid Shaikh

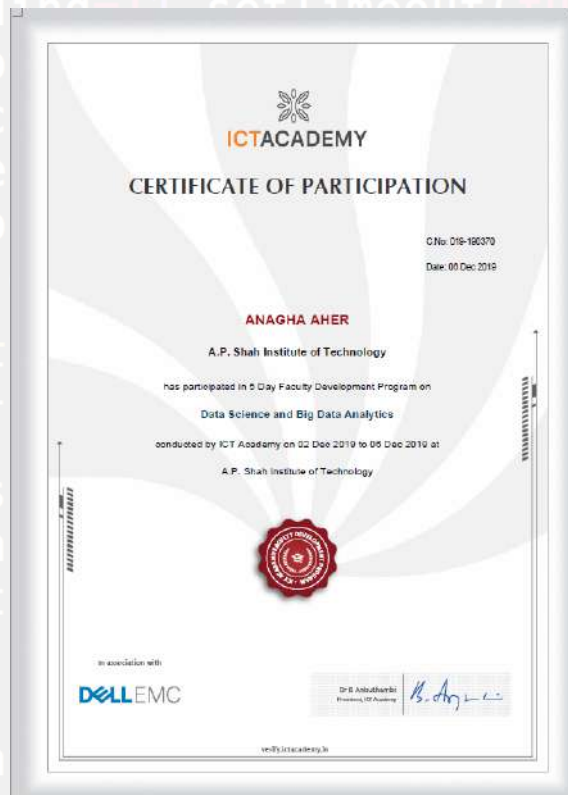
Prof. Poonam Dhawale

Prof. Vishal Badgajar

Prof. Rujata Chaudhari

Prof. Anagha Aher

Prof. Neha Deshmukh



Faculty Development Program

Faculty member are motivated to enrol in various FDPs to facilitate up-gradation of their knowledge and skill.

Faculty Name	Course Name
Prof. Vishal Badgujar	Artificial Intelligence
	Block Chain
	DATA SCIENCE
	Networking Essentials
	NAAC Assessment and Accrediation
Prof. Anagha Aher	Introduction of Python Programming
	Enviroment and Sustainability
Prof. Geetanjali Kalme	DATA SCIENCE
	PHP & MYSQL
Prof. Nahid Shaikh	Data Science & Big data Analytics
	Cyber Security
Prof. Rujata Chaudhari	Introducation to Cybersecurity
	Data Science & Big data Analytics
	Networking Essentials



STTP's/ Training Conducted by Faculty Member



Data Science & Big Data analytics

Training Completed By:

Prof. Nahid Shaikh

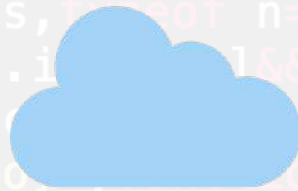
Prof. Poonam Dhawale

Prof. Vishal Badgujar

Prof. Rujata Chaudhari

Prof. Anagha Aher

Prof. Neha Deshmukh



AWS Cloud Foundation

Training Completed By:

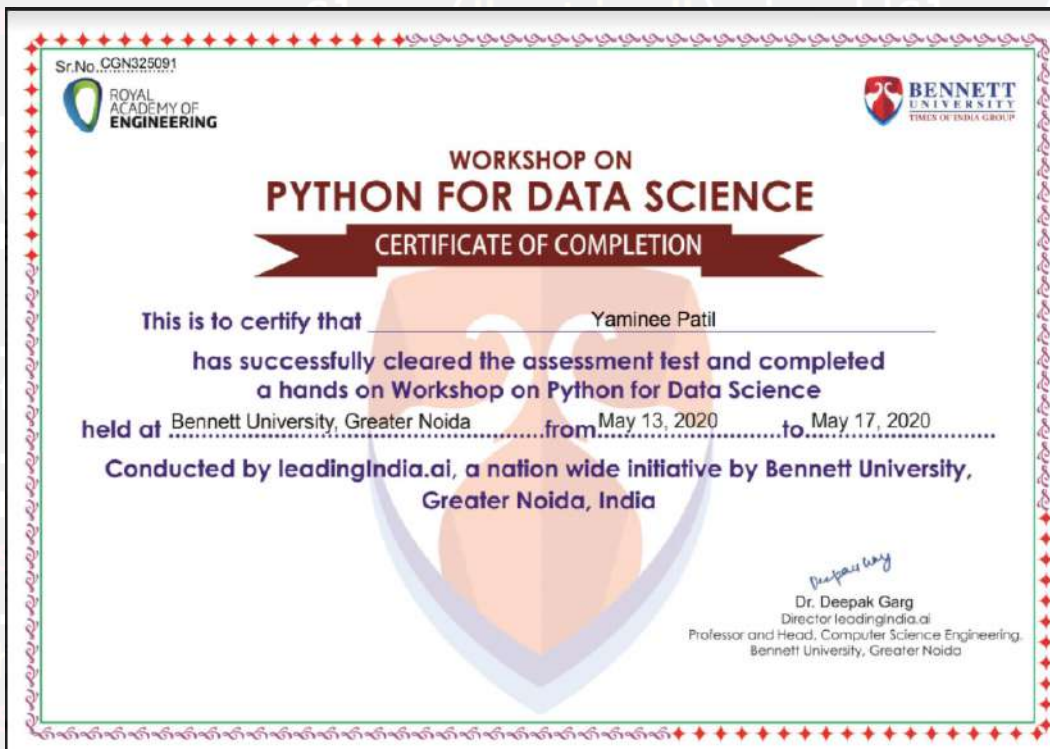
Prof. Nahid Shaikh

Prof. Vishal Badgujar

Short Term Training Program

Faculty members are motivated to enrol in various STTPs to facilitate up-gradation of their knowledge and skill.

Faculty Name	Course Name
Prof. Anagha Aher	Data Analytics
	Education 4.0
Prof. Ganesh Gourshete	Python for Data Science
	Next Generation software tools & trends for Industrial Solution:Current Practices
Prof. Geetanjali Kalme	Latex for Everyone
	Data Analytics
	MATLAB based Teaching-Learning in Mathematics, Science & Engineering
Prof. Nahid Shaikh	Data Analytics
Prof. Neha Deshmukh	Blockchain
Prof. Yaminee Patil	Python for Data Science
Prof. Rujata Chaudhari	Java Programming





**MOMENT
OF PRIDE**

**We are proud to be
NBA accredited**



A. P. Shah Institute of Technology

Remarkable Achievement

Another feather of pride owned by the department is "NBA accreditation for 3 years" dated 4th June 2020. The accreditation of NBA helps higher educational institute to know its strengths, weaknesses and opportunities. The accreditation gives higher learning institutes a new sense of direction and identity.

It was possible with all the collective efforts, dedication, perseverance and positivity of our faculties and students. It was the unwavering support from the Institute and Management that made us move ahead in this learning journey.



Winner of IEEE MGA Larry K. Wilson

Regional Award - 2020

Ali Mustufa Shaikh- BEIT

Our Student Ali Mustufa Shaikh (Alumini IT) awarded with "IEEE MGA Larry K. Wilson Regional Student Volunteer award -2020" for IEEE region 10. He also ranked at 7 position in IEEE Leader Board Challenge. Leader Board Challenge is about recognizing sustained Participation & contribution with IEEE's Global Technical Community.

Happy and thrilled Ali has shared his enthralling journey through his testimonial.

"The purpose of this award is to annually recognize the most responsible student member for extraordinary accomplishments associated with student activities in each region of IEEE. I am happy to inform you that I got awarded with "IEEE MGA Larry K. Wilson Regional Student Volunteer Award - 2020 (for IEEE Region 10)!"

I would like to convey my special thanks to Ms. Megha Ben for nominating me for the Award and mentoring me throughout the process. If you have a mentor like Ms. Megha everything seems easy. I am also thankful to Dr. Hussain Mahdi & Dr. Uttam Kolekar for endorsing my application. Last but not least I would like to thank all my IEEE APSIT Student Branch members for their support and faith in me.

I got introduced to IEEE by Dr. Hussain Mahdi and my dear friend Saurabh Soni. His untiring dedication towards IEEE motivated me to join IEEE family. I have learned a lot from this organization and thus has helped me to bring more closer towards my vision: "To make Students realize their true potential and rise above the bar of the college curriculum and take hold of their lives which is on autopilot mode".

I would extend this credit to everyone who envisioned me as a change maker and motivated me in my journey. None of this would have been possible without A. P. Shah Institute of Technology, Thane."



Larry K. Wilson Regional Student Activities Award 2020

Presented to

Ali Mustufa Shaikh

for extraordinary accomplishments associated with Student Activities
in IEEE Region 10 (Asia and Pacific)

13th November 2020




Toshio Fukuda
IEEE President 2020

Google for Education Certification Exams

04 September 2019

To whom it may concern,

The Google for Education team would like to take this opportunity to celebrate one of your educators; Ali Mustufa Shaikh, who recently passed the Google Certified Educator Level 1 Exam on 04 September 2019. The GCE Level 1 exam is the capstone certification for Google's ISTE-inspired Professional Development training courses for teachers. The program's goal is to help educators master the technological skills needed to integrate Google tools into the classroom, helping improve teacher efficiency, communication, and student outcomes.

We want to thank you for supporting your teachers and faculty in their professional growth. We know a strong professional development program is vital to any educator's continued success, and we commend you for enabling Ali Mustufa Shaikh to take the lead in learning how to best apply our tools in your classrooms.

Celebrating milestones is embedded in our culture at Google. We encourage you to share this achievement with other school leaders who may work directly with Ali Mustufa Shaikh as well.

Congratulations!



Bram Bout

Director, Google for Education



E-Yantra Robotics Championship

Sanjana Nalawade, Sithanshu Mathukia
Himanshu Raut, Ashutosh Deshpande-TEIT

Our students Sanjana Nalawade, Sithanshu Mathukia, Himanshu Raut, Ashutosh Deshpande have participated in the E-Yantra Robotics Championship and reached the final round. They have shared their fascinating journey.

"We competed in the Eyantra Ideas 2019-2020 competition. We were also enrolled in E-4-week YIC's Innovation and Entrepreneurship course, which greatly aided us in our journey from problem identification to solution implementation.

Each week included a set of quiz questions and assignments that we had to complete and after finishing each week's course the mentor would submit the team's assignments on the portal. We had to submit a problem statement and our idea at the end of this course.

136 proposals were chosen for the Implementation Stage from a pool of 1346. and we were one of them. We confronted with a slew of difficulties. Since our project was a fidget cleaner that is an automated ceiling cleaner, it included IoT and mechatronics in it.

There were review sessions held to assist us with our prototype. We were assigned the task of creating a video to introduce our project. Based on all of this, 49 teams were chosen for the Regional finals, and we were honored to be among them.

Regional finals were held in March for two days across India, with ours scheduled in Ahmedabad. On the first day, all of the innovators met and exchanged ideas; we were inspired by the work of other participants and gained many new ideas and perspectives. The Eyantra team later visited each stall and evaluated our work.

The following day, Prof Kavi Arya went over all of the prototypes and provided valuable insights and perspectives for our project. Later, there were talks about the journeys of previous winners, professors, and many more. It was an incredible experience that we never expected to be a part of.

We were not chosen for the finals, but we did learn how to improve our model from the Eyantra team, which was invaluable. We will undoubtedly consider those suggestions in order to improve our model. This journey was something that I believe every student should go through because it teaches you a lot of things like how to present ideas and how to turn an idea into a working model.

Finally, none of this would have been possible without the assistance of our professors, who guided us through every step of the process, from idea generation to working model presentation. I would strongly advise all students to participate in such competitions.





Outstanding Achievement

Graduation years are the foundational years to explore, identify and pursue one's interests and realize his/her true potential. Aligning to it and rigorously adhering to it as an OKR(Objectives & Key Results), APSIT educates its students about the ever-changing technological landscape and helps them prepare for the increased industrial demands in emerging technology.

As cloud technologies continue to help organizations transform their businesses at a rapid pace, employees with the necessary cloud skills are in high demand. Industry research from Global Knowledge shows that two-thirds of IT decision-makers are reporting a gap between their team's skill levels and the knowledge required to achieve organizational objectives. AWS Academy is working to solve that problem. AWS Academy enables diverse education institutions to deliver curriculum and hands-on learning experiences to prepare students for employment in cloud roles. Enrolling into these programs has tremendously helped the students upskill themselves. This has also helped the students become industry-ready and keep them abreast with technological advances.

Global Certification Completed through AWS Academy

- Uddhabendra Maity
- Kunal Kale
- Yogendra Kokamkar
- Sudama Jaiswal
- Utkarsh Naik
- Debashish Choudhury
- Pranav Chauhan
- Sujoy Dev
- Sameer Dev
- Akash Nair
- Rutwik Gaikwad
- Sanjana Nalawade

Student Testimony

"The AWS academy at APSIT helps us to get in-depth hands on experience of configuring and managing various cloud services. Due to these different skill development programmes, it really gives a headstart for the students to crack the job interviews and lets the students keep in track with the modern day to day industry level technologies. The AWS certifications from the college really helped me to get an upper hand and master the interview rounds at Amazon Web Services".

By- Uddhabendra Maity-BEIT



Research Publications in Conferences

Our department has provided us with a research culture embedded within academics where we were encouraged to publish our research work on major projects. The journey started with the orientation regarding IT domains such as AI & ML, IOT, networking, application development etc. Hands-On training on Latex and GitHub were conducted to enable us with current tools and technologies required for collaborative project management. Various webinars and expert talks were also arranged to inculcate the basic skills of writing effective research papers. In addition to that list of Scopus indexed conferences and journals has been shared by guides to identify and target the conferences. Department has also provided financial support for presenting papers in reputed national and international conferences such as IEEE, Springer etc.



Faculty Testimony

"Our department has provided us with a research culture embedded within academics where students are encouraged to publish their research work on major projects. Students have published their papers in reputed conferences like IEEE, Springer etc. under the guidance of skilled faculty members and also got reimbursement of all the expenses for the same."

Prof. Vishal Badgujar - Project Coordinator

Research Publications

Project Title	Team Member	Name of Conference
Appraisal System for Educational Institute	Utkarsh Naik	IEEE-ICETITE, IEEE-ICACCS
	Debashish Choudhury	
	Anagha Devade	
E-Commerce framework for Sales Prediction	Tejal Tandel	IEEE-ICACCS
	Sayali Wagal	
	Nisha Singh	
Sentimental analysis on Social Media	Dilesh Tanna	IEEE-ICICCS
	Mansi Dudhane	
	Amrut Sardar	
Real Time Traffic Management using ML	Jyoti tiwari	IEEE-ICETITE
	Ankita Deshmukh	
	Gayatri Godepure	
Enhancing Data Security in Cloud Using Blockchain	Dhananjay Yadav	IEEE-ICICCS
	Aditi Shinde	
	Akash Nair	
Android Malware Detection using machine learning	Rishab Agarwal	IEEE-ICETITE
	Vishal Shah	
	Sonam Chauvan	
Chatbot for Efficient Resource Allocation and Management	Manasi Ghadge	IEEE-ICICCS
	Gitika Daki	
	Anuja Dhumale	
ML Enabled Surveillance System for Societies	Pranav Chauhan	IEEE-ICETITE
	Sachin Gupta	
	Rohit Arava	
AI Based Self Driving Car	Vinit Shah	IEEE-ICCCSP
	Mahek Jain	
	Hiral Thadeshwar	

Research Publications

Project Title	Team Member	Name of Conference
Autonetics and Adminstration for IT Laboratories.	Uddhabendra Maity	IEEE-ICCDW
	Karthikeyan	
	Atharv Shetty	
Expeditious Banking Using Blockchain Technology	Varsha Naik	IEEE-CISPSSE
	Riya Pejawar	
	Rishabh Singh	
Smart Assistive Device for the Visually Impaired	Sameer Dev	IEEE-ICCDW
	Yogendra Kokamkar	
	Sudama Jaiswal	
Parkmania-Parking Management System	Saurabh Sharma	IEEE-ICCDW
	Srinivas Vishwanath	
Dexter-The College FAQ Chatbot	Chaitanya Bysani	IEEE-ICCDW
	Ajinkya Huddar	
	Chintan Suchak	

All this paper published by IEEE & are available in IEEE Xplore for citation.

Student Testimony

"Our department has developed an ecosystem to cultivate research culture through different project orientation sessions. This ecosystem has helped us to gain the skills for presenting research work based on our final year project. We have published our papers in reputed IEEE conferences under the umbrella of the skilled faculty members guidance and also got reimbursement of all the expenses. This eventually builds our confidence during placement or seeking higher studies."

By- Utkarsh Naik-BEIT



PROFESSIONAL STUDENT ASSOCIATIONS

IEEE

Institute of Electrical and Electronics Engineers



IEEE

IEEE is the world's largest technical society bringing members across to the industry's most essential technical Information, networking opportunities, career development tools and many other exclusive benefits. An IEEE Student Branch provides opportunities to meet, learn from fellow IEEE Student and Graduate Student Members and engage with professional IEEE members locally. An active IEEE Student Branch can be one of the most positive elements of student academic career offering programs, activities and professional networking opportunities that build critical skills. Department of Computer Engineering & Information Technology inaugurated "IEEE APSIT Student Branch" on 22nd of January 2019, with Dr. Hussain Mahdi, Professor, Department of Electronic and Computer Engineering, University of Limerick (UL), Ireland & also professional speaker and motivator from the Technical society of IEEE as chief guest.

Student Testimony

"IEEE has given me an excellent opportunity to enhance my management skill set. While I was a part of IEEE, I was exposed to numerous circumstances where I managed to learn valuable insights and skills on soft skills and networking and also had a great opportunity to meet a circle of experienced professionals. IEEE APSIT provides a platform to learn, share and appreciate meaningful and innovative work and eventually become a connecting thread to all our professional endeavors".

- By-Rushika Ramane, TE IT

CSI

Computer Society of India



45 CSI memberships were sponsored to students based on their Academic performance during AY 2019-20

CSI Institutional membership and CSI Student chapter is an opportunity for networking with professionals, knowledge sharing through CSI Publication & Portal etc. It provides huge, long lasting benefits of value to the institution, its management, faculties and students.

ITSA

Information Technology Students Association



With a motive to exhibit, explore and develop technical skills of the students the institute had planned to form departmental and institute level associations for the students. ITSA was inaugurated and formed with a motive of creating a bond among students and working towards departmental and personal excellence. It provides students the opportunities to learn various technologies and team work ethics. ITSA emphasizes on development and enablement of every individual associated. ITSA also promotes "for the students by the students" ideology for collaborative technical uplift. ITSA overall brings together all students and creates a bonding which helps in enhancing students intellectual progress.

ITSA

Information Technology Students Association



Prof. Anagha Aher
CSI Incharge



Prof. Apeksha Mohite
ITSA Incharge



Prof. Nahid Shaikh
TPC co-Incharge

Meet the Team



Sameer Dev
ITSA President



Jahnvi Naik
ITSA Vice-President



Rutwik Gaikwad
ITSA Secretary



Prasad Jadhav
TPO Head



Ankita Deshmukh
CSI Head

Gayatri Godepure

ITSA Treasurer

Jyoti Tiwari

ITSA Co-ordinator

Sitanshu Mathukia

ITSA Co-ordinator

Priya Naik

CSI Co-ordinator

Hiral Thadeshwar

ITSA Co-ordinator

Vedangi Naigaonkar

ITSA Co-ordinator

Sanjana Nalwade

TPO Co-ordinator

Shreyas Chorge

TPO Co-ordinator

Rashmi Shetty

TPO Co-ordinator

Virag Ghag

TPO Co-ordinator

Chinmay Dharap

ITSA Co-ordinator

Tejas Raibagi

Design Head

Akshata Singh

Design Co-ordinator

ITSA

ITSA is an Information Technology Students Association which works for the development of the department as well as students to bring it to another level. It gives an opportunity to the individual to come up and nurture itself by working with ITSA.

CSI

CSI is the Computer Society of India. It is a professional body which helps to bridge the gap between the industry and institute giving an opportunity to students to explore themselves to various industrial workshops and seminars to gain industrial knowledge and experience.

TPO

TPO is the Training and Placement Cell which helps the students to get the industrial opportunity. It also helps the students to develop its overall personality and helps them to gain confidence to appear for an industrial interview.



INDUSTRIAL COLLABORATIONS

OPEN SOURCE EXPERIMENTAL LAB



Open Source Experimental Lab is a collaborative effort of APSIT and ASHNIK PTE LTD Singapore to impart skills in the areas of open source technologies including Database, Docker, Elastic Stack, NGINX, Cloud Computing to develop necessary industry skills.



NVIDIA DEEP LEARNING LAB

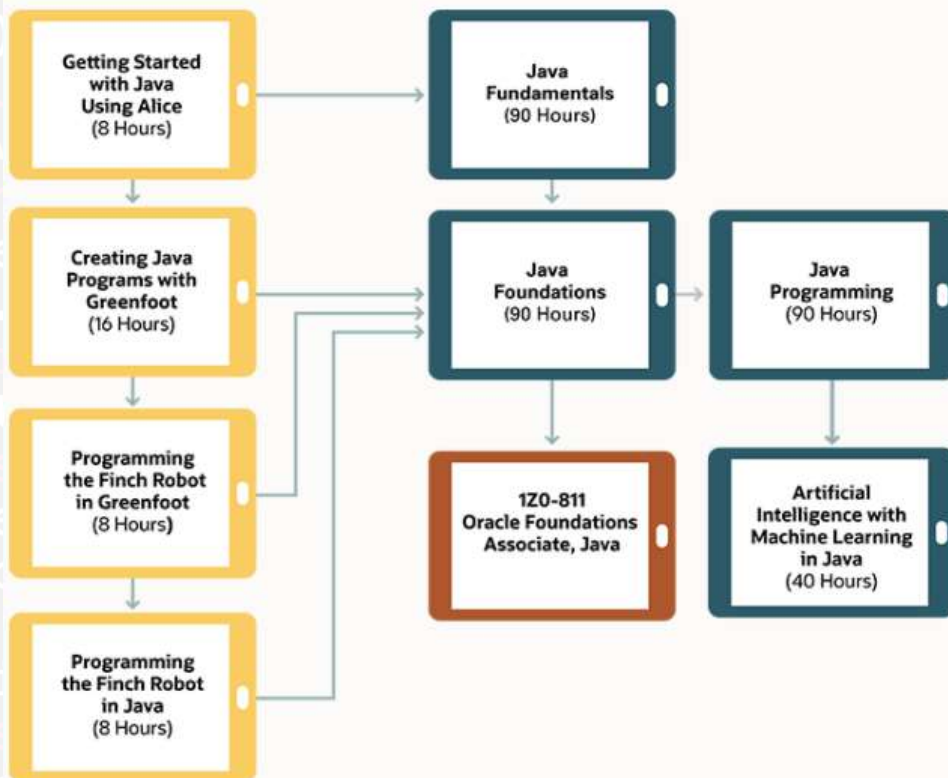


NVIDIA DGX workstation

NVIDIA has setup fully optimized AI Software - Deep Learning GPU Training System (DIGITS) including, NVIDIA driver, NVIDIA® CUDA® Toolkit, NVIDIA® DIGITSTM SW, NVIDIA® cuDNNTM, Caffe, Theano, Torch, BIDMach, NVIDIA RAPIDS for end-to-end data science and analytics pipelines and NVIDIA DGX Server in APSIT.



ORACLE ACADEMY

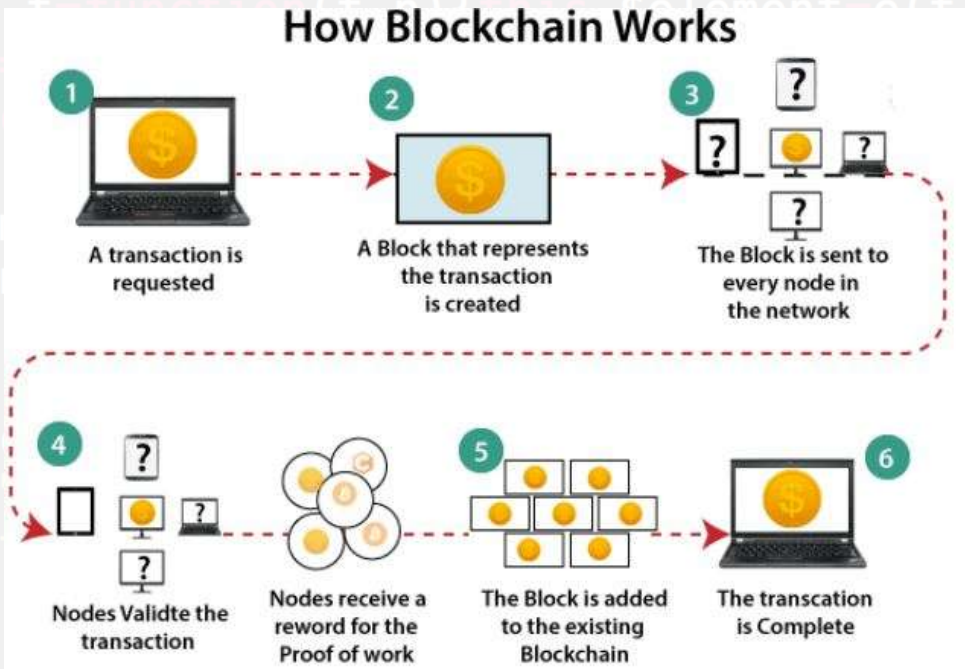


ORACLE
Academy

Oracle Academy is a collaborative effort of APSIT & Oracle Corporation, USA to impart skills leading to global certifications in the domains like JAVA Programming, Database Design & Programming & PL/SQL



BLOCKCHAIN COUNCIL MEMBERSHIP



The Blockchain Council is an authoritative group of experts and enthusiasts who are evangelizing the Blockchain Research , Development, Use Cases , Products and Knowledge for the better world.

CERTIFIED BLOCKCHAIN ARCHITECTTM

THIS IS TO ACKNOWLEDGE THAT

Yogendra Kokamkar

HAS SUCCESSFULLY COMPLETED ALL REQUIREMENTS & CRITERIA FOR

CERTIFIED BLOCKCHAIN ARCHITECT

CERTIFICATION THROUGH EXAMINATION & TRAINING

ADMINISTERED BY BLOCKCHAIN COUNCIL.

Certified

CERTIFICATE ID: 13838159
ISSUED ON: September 30, 2019

Sharma
TOSHENDRA SHARMA
EXECUTIVE DIRECTOR, BLOCKCHAIN COUNCIL

REDHAT ACADEMY



Red Academy is a collaborative effort of APSIT & Red Hat, Inc USA to impart the skills leading to global certifications in the areas of Core System Administration, Middleware Development & Microservices.

Why Red Hat Academy?

Red Hat Academy turns academic institutions into centres for enterprise-ready talent by outfitting them with Red Hat training and certification. Red Hat Academy provides a curriculum to help education institutions keep pace with the demands of industry. The curriculum involves hands-on instruction across platform, middleware, and cloud technologies built with input from Red Hat development, support, and field consulting teams. Rather than learning theoretical skills, students learn practical skills based on use cases from thousands of enterprise implementations.

Core system Administration:

Learn to deploy, administer, manage, and secure Red Hat Enterprise Linux.

- Red Hat System Administration I (RH124)
- Red Hat System Administration II (RH134)
- Red Hat System Administration III (RH254)

CISCO NETWORKING ACADEMY



CISCO Networking Academy has been set up in collaboration with Cisco Inc. USA. Courses lead to global certifications in the areas of Cybersecurity, IOT, Routing & Switching.



Cisco Networking Academy

CCNAv7: Introduction to Networks

The student has successfully achieved student level credential for completing CCNAv7: Introduction to Networks course administered by the undersigned instructor. The student was able to proficiently:

- Configure switches and end devices to provide access to local and remote network resources.
- Explain how physical and data link layer protocols support the operation of Ethernet in a switched network.
- Configure routers to enable end-to-end connectivity between remote devices.
- Create IPv4 and IPv6 addressing schemes and verify network connectivity between devices
- Explain how the upper layers of the OSI model support network applications.
- Configure a small network with security best practices.
- Troubleshoot connectivity in a small network.

PARVI AGRAWAL

Student

A.P. Shah Institute of Technology

Academy Name

India

9 Jun 2020

Location

Date

Neha Deshmukh

Instructor

Instructor Signature



AWS ACADEMY



Amazon Web Services & Educate program prepares students for booming technology of Cloud Computing. AWS certification is a doorway to IT industry. AWS Academy Cloud computing curricula prepares students for industry-recognized certificates and in-demand cloud jobs.



DELLEMC ACADEMIC ALLIANCE



DELL EMC recognized APSIT for setting up DellEMC external research and academic alliance in the field of Data Science.

DELLTechnologies

Proven Professional Academic Alliance

Dell Technologies is proud to award

Karan Thakkar

with the title of

EMC Academic Associate, Data Science and Big Data Analytics
in recognition of completing all program requirements

Verification Code: 370XKFZ2GNVQ1380
Verify at: dell.com/verifycert

December 26, 2019

DELLEMC



VMWARE IT ACADEMY



VMware Academy has been set up in collaboration with VMware Inc. USA. Courses under this Academy leading to global certifications in the areas of Data Center & Network Virtualization, Cloud Management & Automation, Digital Business Transformation.



UNITY ACADEMIC ALLIANCE

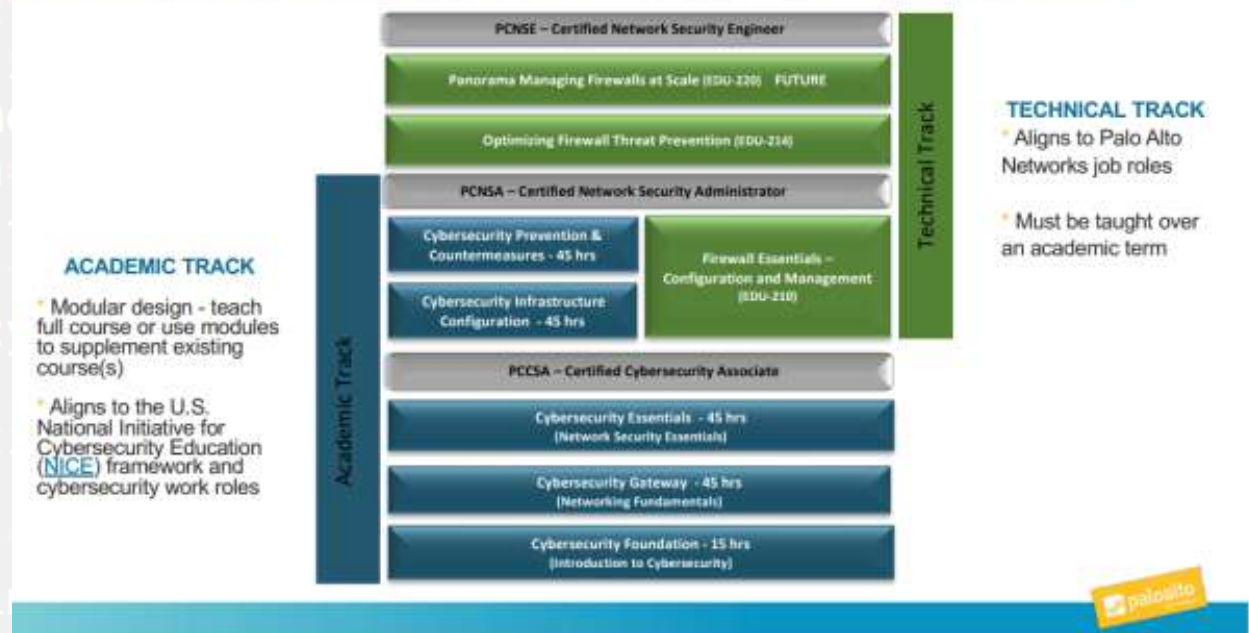


Unity's Academic Alliance with APSIT is committed to advancing their students' awareness, skills and inspiration for creating immersive experiences in 2D, 3D, VIRTUAL REALITY and AUGMENTED REALITY.



PALO ALTO NETWORKS CYBERSECURITY ACADEMY

ACADEMY CURRICULUM ROADMAP WITH INTEGRATED TRACKS



Become Palo Alto Networks Certified Cybersecurity Associate (PCCSA) possessing knowledge of cutting-edge technology available today to manage the cyber threats of tomorrow. Academy curriculum is aligned with the U.S. National Initiative for Cyber Security Education

PALO ALTO NETWORKS CYBERSECURITY ACADEMY

STUDENT CERTIFICATE OF COMPLETION

THIS CERTIFICATE OF COMPLETION CONFIRMS THAT

Chinmay Dharap

has successfully completed

Course Name - Cybersecurity Foundation-APSIT-05/15/20

Nikesh Arora
Nikesh Arora
O and Chairman
Palo Alto Networks

Issued By
A.P.Shah Institute of Technology,
Maharashtra, India 400615

Authorization Date
13/05/2020





ACADEMIC INITIATIVES

NPTEL Achievements of A.Y. 2019-20



National Programme on Technology Enhanced Learning (NPTEL) is an initiative by seven Indian Institutes of Technology (IIT Bombay, Delhi, Guwahati, Kanpur, Kharagpur, Madras and Roorkee) and Indian Institute of Science for creating course contents in engineering. Students and faculty undergo courses designed by IITians and obtain certification in various domains of engineering. APSIT recognized as an ACTIVE Local Chapter for both the sessions of AY 2019-20. APSIT reimburses the full NPTEL Certification Exam fees to faculties & Students who have completed NPTEL Certification Successfully.

Student Testimony

Massive Open Online Courses (MOOC) is essentially an asynchronous platform and process for teaching through pre-recorded lectures, resource video materials, lecture notes, assignments and quizzes, which are usually online and provide self-assessment at regular intervals during learning. The enrollment and learning from these courses involves no cost. Following these online courses, an in-person, proctored certification exam will be conducted and a certificate is provided through the participating institutions and industry, when applicable. This has helped a lot in taking the subject knowledge to a next level.

-By Sanjana Nalawade, TE-IT

NPTEL Achievements

Student Achievements 2019-20

RAHUL VAST

Course

Ethical Hacking

Outcomes / Score

Elite / 79

Prem Vispute

Course

Joy of computing using Python

Score

97

Krishita Tolia

Course

Joy of computing using Python

Score

83

Soundarya Nervekar

Course

Data mining

Score

80

Jash Seth

Course

Joy of computing using Python

Score

98

Dhruva Mhatre

Course

Joy of computing using Python

Score

76

Siddhesh Gaikwad

Course

Joy of computing using Python

Score

73

Elite

NPTEL Online Certification
(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
RAHUL VAST
for successfully completing the course
Ethical Hacking

with a consolidated score of **79** %

Online Assignments	23.31/25	Proctored Exam	56/75
--------------------	----------	----------------	-------

Total number of candidates certified in this course: 2097

Jul-Oct 2019
(12 week course)

A. Goswami
Prof. Adrijit Goswami
Dean, Continuing Education & NPTEL, Coordinator
IIT Kharagpur

Indian Institute of Technology Kharagpur

swayam

Roll No: NPTEL19CS68541820220

To validate and check scores: <https://npTEL.ac.in/noc>

NPTEL Achievements

NPTEL Statistics I half of AY 2019-20

S.no	Course Name	Name	Final Score	Certificate Type	Timeline
1	Data Base Management System	AMIT PANDEY	57	Successfully completed	Jul-Dec 2019
2	Data Base Management System	RAJAN NANDKUMAR KHADE	65	Elite	Jul-Dec 2019
3	Data Base Management System	HARSHAL PATIL	35	No Certificate	Jul-Dec 2019
4	Data Base Management System	GUPTA SATISH DINESH	61	Elite	Jul-Dec 2019
5	Data Base Management System	CHIRAG JAIN	57	Successfully completed	Jul-Dec 2019
6	Data Base Management System	PREM VISPUTE	66	Elite	Jul-Dec 2019
7	Data Base Management System	DHRUVA MHATRE	66	Elite	Jul-Dec 2019
8	Introduction to Machine Learning-IIT Kharagpur	SOUNDARYA NEVREKAR	70	Elite	Jul-Dec 2019
9	Data Base Management System	SRUSHTI PATIL	53	Successfully completed	Jul-Dec 2019
10	Data Science for Engineers	ABHISHEK POTE	64	Elite	Jul-Dec 2019
11	Data Base Management System	JAINAM CHOPRA	60	Elite	Jul-Dec 2019
12	Ethical Hacking - Online	VISHAL SAHEBRAO BADGUJAR	64	Elite	Jul-Dec 2019
13	Ethical Hacking - Online	SOUNDARYA NEVREKAR	63	Elite	Jul-Dec 2019
14	Ethical Hacking - Online	HARSHITA ANIL SHAH	47	No Certificate	Jul-Dec 2019
15	Cloud Computing - Online	GANESH DIGAMBER GOURSHE	62	Elite	Jul-Dec 2019
16	Human Computer Interactions - Online	POONAM VIJAY DHAWALE	55	Successfully completed	Jul-Dec 2019
17	Ethical Hacking - Online	RAHUL VAST	79	Elite+Silver	Jul-Dec 2019
18	Switching Circuits and Logic Design - Online	GEETANJALI ROHAN KALME	47	Successfully completed	Jul-Dec 2019
19	The Joy of Computing using Python - Online	HARSHITA ANIL SHAH	54	No Certificate	Jul-Dec 2019
20	Introduction to Internet of Things - Online	KAUSHIKIUPADHYAYA	69	Elite	Jul-Dec 2019
21	Design and analysis of algorithms - Online	ANAGHA AHER	40	Successfully completed	Jul-Dec 2019
22	Demystifying networking	SNEHA KANCHAN	88	Elite+Silver	Jul-Dec 2019

NPTEL Statistics II half of AY 2019-20

Sr.no	Name	Course Name	Score
1	Geetmajali kalme	Data mining	75.00%
2	vishal badgujar	google cloud computing foundation course	88.00%
3	soundarya nervekar	Data mining	80.00%
4	Akshata Uday Gavas	The joy of computing using python	69.00%
5	Tanaya Patil	The joy of computing using python	54.00%
6	Jash Seth	The joy of computing using python	98.00%
7	Chirag Jain	The joy of computing using python	51.00%
8	Siddhesh Gaikwad	The joy of computing using python	73.00%
9	Krishita tolia	The joy of computing using python	83.00%
10	Prem Vispute	The joy of computing using python	97.00%
11	Dhruva mhatre	The joy of computing using python	76.00%

NPTEL Achievements

Faculty Achievements I Half of AY 2019-20

Prof. Kaushiki Upadhyaya

Course

Introduction to Internet of Things

Outcomes / Score

Elite/ 69



Course

Demystifying networking

Prof. Sneha Kanchan

Outcomes / Score

Elite+Silver/ 88

Prof. Vishal Badgujar

Course

Ethical Hacking

Outcomes / Score

Elite/ 64

Prof. Ganesh Gourshete

Course

Cloud Computing

Outcomes / Score

Elite/ 62

NPTEL Achievements

Faculty Achievements II Half of AY 2019-20

Prof. Geetanjali Kalme

Course

Data Mining

Score

75


Prof. Vishal Badgujar

Course

Google Cloud Computing Foundation Course

Score

88



The image shows a formal NPTEL Online Certification certificate. At the top left is the NPTEL logo, a stylized flower-like emblem. To its right, the text reads "NPTEL Online Certification" in a large, bold, red font, with "(Funded by the Ministry of HRD, Govt. of India)" in a smaller font below it. In the top right corner, there is a small portrait of a man, presumably the recipient, Vishal Sahebrao Badgujar. Below the portrait is a red circular stamp that says "Covid-19 Impacted January 2020 semester". The main body of the certificate contains the following text: "This certificate is awarded to VISHAL SAHEBRAO BADGUJAR for passing the course Google Cloud Computing Foundation Course with Score* 88 %". At the bottom right, the name "A. Goswami" is written in a large, stylized font, with "Prof. Adrijit Goswami, Dean, Continuing Education & NPTEL Coordinator, IIT Kharagpur" in a smaller font below it. At the bottom left, the date "Feb-Apr 2020 (8 week course)" is printed. The bottom of the certificate features a yellow banner with the Indian Institute of Technology Kharagpur logo and the "swayam" logo. A red footer bar at the very bottom contains the text: "*Continuous online assessment score" and "To validate and check scores: <https://nptel.ac.in/noc>".

Spoken Tutorial



APSIT is a recognized Super Resource Center of IIT Bombay since 2019 for Spoken Tutorial program under the MHRD, Govt. of India. Spoken Tutorial is a Training and certification program for all types of open-source programming languages, tools, and technologies for all branches of engineering.

Spoken Tutorial	Courses	2019-2020
SEIT	JAVA	23
	Linux	66
	Python	14
TEIT	LaTeX	51
	Arduino	47

Spoken Tutorial

Java



Toppers:

1. Aditya saini	82.5%
2. Aaryan Parab	72.5%
3. Nikhil Rathod	70%
4. Rajan Khade	70%
5. Dhurva Mhatre	70%

No. of students completed Certifications: 23

Spoken Tutorial

Python



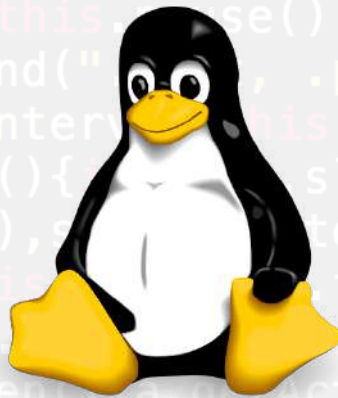
Toppers:

1. Yash Jain	70%
2. Shubham Sakpal	60%
3. Siddhesh shinde	55%

No. of students completed Certifications: 14

Spoken Tutorial

Linux



Toppers:

1. Prerana Kanawade	86.7%
2. Krishita Tolia	85.6%
3. Vaishnavi Sriramoju	83.3%

No. of students completed Certifications: 66

Spoken Tutorial

LaTeX

LATEX

Toppers:

1. Tejas Khanted	95.6%
2. Mandar Kumbhar	78.9%
3. Harshita shah	76.7%

No. of students completed Certifications: 51

Spoken Tutorial

Arduino



Toppers:

1. Abhijit Ambre	100%
2. Sujoy Dev	100%
3. Tejas Raibagi	100%
4. Kavan Naik	100%
5. Prasad Jadhav	100%
6. Rutwik Gaikwad	100%
7. Utkarsha Potdukhe	100%
8. Sahil Naik	100%

No. of students completed Certifications: 47

Spoken Tutorial

Faculty Development Program



Linux, Drupal, LaTeX, R

Training Completed By:

Prof. Nahid Shaikh

Prof. Rujata Chaudhari

Prof. Anagha Aher

Prof. Apeksha Mohite

Prof. Vishal Badgujar

Prof. Neha Deshmukh

Prof. Geetanjali Kalme

Prof. Ganesh Gourshete

Prof. Yaminee Patil

Prof. Sonal Jain

Ms. Shweta Mahajan

GATE TRAINING

Free GATE Coaching



The Graduate Aptitude Test in Engineering (GATE), is an All-India examination administered and conducted in eight zones across the country by the GATE Committee. It primarily tests the comprehensive understanding of various undergraduate subjects in engineering and science. GATE score of a candidate reflects the relative performance level of a candidate. This entrance exam is to get admission in M. Tech/MS in IISc /IITs / NITs and other Universities. Also, for applying in top PSUs which offer lucrative jobs, pursuing a career in Research & Development, for technical value addition, expertise in subject/domain specialisation. From the beginning of the semester III students of our department are provided the exclusive training by experts which will be conducted in college campus once a week (currently every Saturday). This helps students to maintain a balance between GATE studies as well as their academics. Coaching from experts help students gain adequate knowledge, tips and tricks which ensures good results and also better future opportunities. GATE sessions are conducted from semester 3 to semester 6 (till the exam).

APTITUDE TRAINING

Training Program



Our college not only believes in quantity but also in quality of education that should be delivered in all best possible ways to their students which will be beneficial in their upcoming carrier. To do so our college has also started aptitude training sessions right from third year itself.

Also to maintain consistency of this activity our college took an initiative of conducting online tests for aptitude session on a regular basis for at least once in a week. By doing so our college ensures that they never fail to prove that they never let their students down in any field and help their students in all possible ways so that they can reach certain height in their life.

Student Testimony

"Aptitude coaching conducted in the college showcases the student-centered nature of APSIT. The Aptitude training sessions have put the students in a better position to face the campus recruitment drives while the Gate coaching has enabled them to polish their knowledge of subjects and widen their conceptual understanding."

-By Utkarsh Naik, BE-IT

ARS

Student Empowerment Scheme

Attendance Reward Scheme

In Academic Year 2019-20 , APSIT has announced 'Attendance Reward Scheme' for students. All APSIT students having more than 90% theory attendance of every semester are eligible for the attendance reward. The reward scheme is implemented in both semesters of an academic year. Usually it will be in the month of September and March every academic year. The students qualified for reward were given coupons worth Rs. 1000 which can be used in the college canteen and stationery store .

45 Students have taken benefit of ARS in First Half of AY 2019-20.

Student Testimony

As an encouragement to attend lectures and lab sessions regularly, APSIT has announced 'Attendance Reward Scheme' for students. All APSIT students having more than 90% attendance of every semester are eligible for the attendance reward. The reward scheme is implemented in both semesters of an academic year. Usually it will be in the month of September and March every academic year. The students qualified for reward are given coupons worth Rs. 1000 which can be used in the college canteen and stationery store. This reward encourages students for attending lectures and lab Sessions.

By-Krutika Pawar, TE-IT

ARS

Student Empowerment Scheme



A. P. SHAH INSTITUTE OF TECHNOLOGY No. 100001

Attendance Reward

₹.10/-

Valid upto 10th March, 2019

Redeem @APSIT Canteen / Store



LANGUAGES

Foreign Language Courses



It is very rare to see a program combining language & engineering. In fact, such engineering collaborations are particularly important in light of the global scenario. In the global economy, one of the most valuable traits an employee can possess is the ability to speak a second or multiple languages.

Engineers are passionate about working for international companies. As companies broaden their reach across continents and service a diverse population, demand for candidates who will immerse themselves in other cultures is crucial. Foreign language fluency will give students the opportunity to showcase yourself as a global employee, which can be filled with exciting, fulfilling and lucrative professional opportunities.

We at APSIT are offering the crucial Foreign Languages as French, German, Japanese, Mandarin, and Spanish. The course is meant for International Examinations; where in students are trained systematically without adding any extra financial burden on them. Course is taught using all advanced techniques like Audio-Visual clips, Group Interactions, Games etc.

LANGUAGES

Foreign Language Courses



Student Testimony

In today's world, having additional skills along with technical expertise is a must. As a rule, APSIT has always taken efforts to provide students with unique experiences to make us competent on a global level. Offering classes for multiple foreign languages is more proof of this fact. Through this initiative, students are introduced to a new culture and expand their world. Knowing another language is advantageous as it opens up possibilities for education and employment abroad. I feel grateful for this opportunity to gain a new skill, something that I otherwise wouldn't have learned.

By-Soundarya Nevrekar, TE-IT



A. J. ABRAHAM INSTITUTE OF TECHNOLOGY
Cyber Security Department | Led by Dr. Sangeetha
Cyber Security Department is the leading department in the field of Cyber Security. The department is equipped with the latest hardware and software tools for the study of Cyber Security. The department is also providing training in the field of Cyber Security. The department is also providing training in the field of Cyber Security.
Establishing the bridge between Academia & Industry
Department of Computer Engineering & Information Technology

INTERNSHIPS



Internship Details

A.Y. 2019-20

Himanshu Raut

- **Novel ERP Solutions**

December 01, 2019 - December 31, 2019

- **A One Salasar Auctions Pvt Ltd**

December 03, 2020 - March 03, 2020

Rushika Ramane

SigmaFlux

September 09, 2019 - March 07, 2020

Shruti Sawant

Apsit Skills, Thane

June 01, 2020 - July 01, 2020

Internship Details

A.Y. 2019-20

Sanjana Nalawade

Sigmaflux

November 01, 2019 - May 01, 2020

Rutuja Patole

Sigmaflux

September 09, 2019 - March 07, 2020

Jayesh Bhosale

Apsit Skills

June 15, 2020 - July 31, 2020

Internship Details of A.Y. 2019-20

Novel
Connect Business

NovellERP Solutions Pvt. Ltd.

SAP SOLUTIONS
ERP SOLUTIONS
IT OUTSOURCING
WEB SOLUTIONS
IT CONSULTANCY

Date: 26th May ,2020

Certificate of Experience

This is to certify that **Mr. Himanshu Raut** has done Internship at **NovellERP Solutions Pvt. Ltd.** from **1st December, 2019 to 31st December,2019** as a **"Java Trainee"** under the guidance of **Mr. Ankush Agrawal**.

We have found him to be a self starter who is motivated, duty bound and Hard-working. He worked sincerely throughout the assignment with zeal.

We wish him all the best for the future.

For NovellERP Solutions Pvt. Ltd.



Priya Mishra

HR Manager



WORKSHOPS & TRAININGS

PBL

Project Based Learning



Project-based learning is a dynamic classroom approach in which students actively explore real-world problems and challenges and acquire a deeper knowledge. Students work on a project over an extended period of time – from a week up to a semester – that engages them in solving a real-world problem or answering a complex question. They demonstrate their knowledge and skills by developing a public product or presentation for a real audience. As a result, students develop deep content knowledge as well as critical thinking, creativity, and communication skills in the context of doing an authentic, meaningful project. Project Based Learning unleashes creative energy among students and teachers.

In First half of A.Y. 2019-20, PBL was conducted on Python Programming Language and Machine Learning.

Student Testimony

"The Project Based Learning is great initiative to understand practical aspects from the industry experts. I got experience of working on real world project. It has enhanced my knowledge and boosted my confidence."

-By Utkarsh Naik, BE-IT

MACHINE LEARNING

Project Based Learning



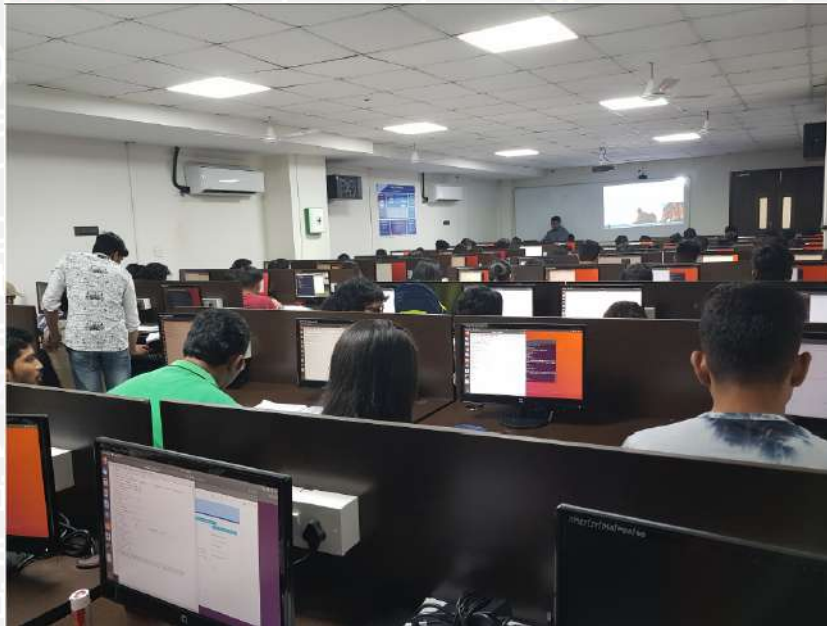
An exclusive training on Machine Learning under PBL for TEIT students was conducted from 30th Dec 2019 to 03rd Jan 2020. Mr. Ali Mustafa was invited as resource person from Google CrowdSource. TE students were present for the training. The expert covered all the topics under Machine Learning and assigned different projects for various groups of students. Prof. Vishal Badgujar coordinated the training program under the guidance of Head of Department Information Technology Prof. Kiran Deshpande.

Student Testimony

It has been very amazing experience learning ML. It was very informative and interacting session. It has covered all the basics of machine learning using an approachable, and well-known programming language, Python. Apart from Machine Learning algorithms we also learned the purpose of Machine Learning and where it applies to the real world and also the hands-on experience while learning has helped to understand the concepts better. The project that we did in ML has encouraged us to work together in teams and has helped lay the foundation for solving the real-life problem.

PYTHON PROGRAMMING

Project Based Learning



An exclusive training on Python under PBL for SEIT students was conducted from 23rd Dec 2019 to 28th Dec 2019. Mr. Vaseem Dhurani, Delhi was invited as resource person from Aedifico Tech Pvt Ltd. SE students were present for the Training. The expert covered all the topics under Python and assigned different projects for various groups of students. Prof. Vishal Badgujar coordinated the training program under the guidance of Head of Department Information Technology Prof. Kiran Deshpande

Student Testimony

"The Project-Based Learning is an intensive training session which lets us have a hands-on experience while learning. It is quite different from the classroom environment and encourage us to work together in teams. We are trained for recent technologies by industry experts. These activities are usually conducted in summer / winter vacation for duration of a week. Department has developed dedicated labs of sufficient capacity for these trainings so that trainings can be conducted for entire class at one go. We, as a student need to complete the assigned project under the guidance of internal faculty and is reviewed by trainer at regular intervals. These trainings put no additional financial burden on us since its provided free of cost"

By-Rutwik Gaikwad, TE IT

DATA SCIENCE & BIG DATA ANALYTICS

Short Term Training Program



DSBDA Course is conducted from 2/12/2019 to 6/12/2019 for faculties and from 9/12/2019 to 13/12/2019 for APSIT Students. The course provided basic and advanced analytic methods and an introduction to big data and the Data Analytics Lifecycle to address business challenges that leverage big data. The course provides grounding in basic and advanced analytic methods and an introduction to big data analytics technology and tools, including MapReduce and Hadoop. The extensive labs throughout provided many opportunities to apply these methods and tools to real-world business challenges as a practicing Data Scientist.



CLOUD COMPUTING

Short Term Training Program



In September 2019, our college, A. P Shah Institute of Technology, organized a session of Amazon Web Service (AWS) training for students of Computer Science & Information Technology Department Respectively. This session was organized under the guidance of HOD, Prof. Kiran Deshpande. The hands-on session was taken by Mr. Pranav Phadke. The department has organized a training session on AWS for the students where they can enroll themselves and get the benefits of learning technologies like hosting a website, creating a database, using various services provided by the AWS, and many more. The main motive of this session was to give the basic idea about what the Amazon Web Services are to the students who have enrolled themselves to this training. Every student was given a system to have the full hands-on experience of the labs performed in this training. .

Testimony

Department believes in progressive approach. To help students cope with the emerging trends & technologies, Department has provided a platform where Students are made industry ready through various student enablement programmes such as workshops & trainings.

-By Prof. Anagha Aher, CSI Incharge

HANDS ON SESSION: CUDA PYTHON

Training Session By the Students For the Students



This session was conducted by Sameer Dev currently studying in BE-IT on Monday, 2nd December 2019. The concept of 'Fundamentals of Accelerated Computing using CUDA Python' was covered under the initiative of seminars held under 'By students for students'. This initiative has been giving a great output by the students as they get to learn in a very friendly environment and can understand easily as its explained by one of their fellow classmates itself. The seminar was attended by a count of 27 students.

The session covered information about labs in Nvidia accelerated computing using CUDA python and fundamentals of deep learning using computer vision. It gave a brief overview about numba, numpy and how to solve the labs and assignments covered under certification course. The session aimed at helping students get an overview of numpy and numba and how the online labs could be completed.

Testimony

Department strives hard to keep Students well versed with recent trends in IT. With a motive of collaborative learning department has arranged various training sessions by the students for the students.

-By Prof. Apeksha Mohite, ITSA Incharge

HANDS ON SESSION:GITHUB

Training By Students For Students Session



ITSA, the IT Department Students Association promotes the ideology of "For the students - By the students". Such sessions encourage students to come forward and portray their skills to their batch mates which in a way promotes a collaborative learning environment and helps boost their confidence. In inclination to the same, ITSA arranged a hands-on session for the BE IT students about usage and importance of using GitHub. The session was conducted by BE-IT student Debashish Choudhury on 27/09/19 with a motive to make students understand how GitHub can be used and its advantages overall. Debashish helped the students understand the importance of version control and git and further explained basic as well as advanced github operations through Github CLI along with VS Code integration which can be useful for storing their project related codes, datasets, relevant information and reports. The session received an overwhelming response from the students who were committed to use the concepts learnt in their future projects. Approximately 25+ students benefited from this hands-on session

Student Testimony

The GitHub session helped us understand the need and advantages of version control in development as well as production environments. It helped lay the foundation of a skill that is much needed in Software Developers.

By-Sanjana Nalawade, TE IT



EVENTS

P. Shah Institute of Tech

Kasarvadavali, Ghodbunder Road, Thane(W)

Pin-400615, Maharashtra, India

(Approved by AICTE, New Delhi & Govt. of Maharashtra,
Affiliated to Mumbai University)

(Religious Jain Minority)

INDUSTRIAL VISIT

DP World Nhava Sheva



An industrial visit to DP World Nhava Sheva Operation Center, Container Gate Sheva Navi Mumbai - 400707 India on 4th February 2020. Total 50 students of SEM IV (25 students) and SEM VI (25 students) participated in Industrial Visit. Nhava Sheva International Container Terminal Pvt Ltd. also known as NSIGT, India's first private container terminal was set up in 1997 and was inherited by DP World as part of the P&O Ports acquisition in 2006. Built at Jawaharlal Nehru Port (JN Port), India's largest gateway to container trade, DP World Nhava Sheva has long been a significant contributor to India's development, and an exemplary example for all subsequent container terminal operators to follow. NSIGT is managed under a 30 year Build-Operate-Transfer agreement set up with the Jawaharlal Nehru Port Trust (JNPT) of the Government of India. This Terminal which operates with state-of-the art infrastructure and provides world-class service is certified for ISO 9001, ISO 14001, OHSAS 18001 and ISO 27001 management systems.



EXPERT TALKS

NVIDIA Deep Learning Fundamentals for Computer Vision



Workshop on "NVIDIA Deep Learning Fundamentals for Computer Vision" was scheduled on 12/10/2019 in lab 314. Prof. Kaushiki Upadhyaya, NVIDIA DLI Ambassador conducted the training program. Two Faculty members and 33 students of second and third year of APSIT belonging to Department of Computer Engineering and Information Technology participated in the course.

Following was the agenda and contents covered during the program:

Agenda/Scope- hands-on course in Deep Learning covering fundamentals for Computer Vision.

Course outcome – participants who finish course will be able to identify both the types of problems that are well suited for Deep Learning & how to think about approaching each of them.

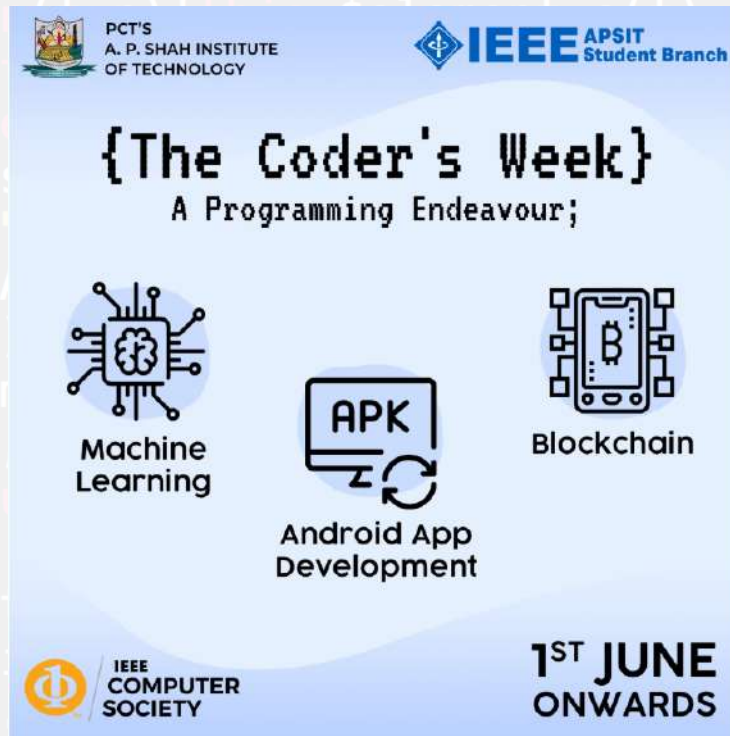
Topics- implementing common deep learning workflows, such as image classification and object detection, experiment with data, training parameters, network structure, and other strategies to increase performance and capability, deploying neural networks to start solving real-world problems.

EXPERT TALKS

Sr. No	Expert Talk	Date
1	Expert Talk on - Role of IEEE for society and environment	03-08-2019
2	Training Session on- How to prepare for GD & PI	31-07-2019
3	Expert Talk on - Optimizing Complexity of Algorithm	10-08-2019
4	Expert Talk on - How to present your Research	20-08-2019
5	Expert Talk on Machine Learning & Deep Learning	21-08-2019
6	Expert Talk on - How to prepare for GRE	28-08-2019
7	Hands on session on -Deep Learning NVIDIA DGX	29-08-2019
8	Expert Talk on Game Development in Unity	10-09-2019
9	Expert Talk on - Creating Technical Report using LaTeX	20-09-2019
10	Hands on Session on -Basic and Advance operations on GitHub	27-09-2019
11	Expert Talk on - Cloud Architectural Best Practices	03-10-2019
12	One day workshop on Fundamentals of Deep Learning for Computer Vision	12-10-2019
13	Expert Talk on-Tensor flow 2.0	26-10-2019
14	Expert Talk on Fundamentals of Accelerated computing using CUDA Python	02-12-2019
15	Web Development With Or Without React	03-02-2020
16	Expert Talk on Benefits of IEEE membership	05-02-2020
17	Expert Talk on Blockchain technology	05-02-2020
18	Expert Talk on Importance of Competitive Coding in all aspects	06-02-2020
19	Expert Talk on Intel Course	09-02-2020
20	Expert Talk on Use of simulator and designing finite automata	12-02-2020
21	Virtual Training on 'Docker Essentials'	20-03-2020
22	Expert Talk on Distributed system programming, Data Science, Coding competitions and research papers	20-04-2020
23	Expert Talk on Importance of Tech Communities and Introduction to Design Thinking	21-04-2020
24	Expert Talk on Freeing yourself from stress, boredom and anxiety and opening up in the lockdown	22-04-2020
25	Expert Talk on Careers in Blockchain	23-04-2020
26	Expert Talk on Start your Cloud Journey with AWS	24-04-2020
27	Webinar on Introduction to Middleware Technologies	09-06-2020
28	Webinar on Introduction to Red Hat OCP & Microservice Architecture	16-06-2020
29	Expert Talk on WIE benefits, scholarships and awards	15-06-2020
30	Expert Talk on Volunteering opportunities and experiences	15-06-2020
31	Expert Talk on Business opportunities in rural areas	16-06-2020
32	Expert Talk on Women entrepreneurs	16-06-2020
33	Expert Talk on Career Development	17-06-2020
34	Expert Talk on Benefits of LinkedIn profiles in career	17-06-2020
35	Expert Talk on Webinar on Screen Time and Eye Strain	30-06-2020

IEEE STUDENT CHAPTER

Coder's week



An online programming endeavour, The Coder's Week, was held by IEEE APSIT SB CS Chapter. It was held on 1st June 2020, with the volunteers working from home due to lockdown restrictions. It is worth noting that this was the first ever large scale event by our SB. Event included 600+ participants from all over the world, out of which 140 participants completed the entire learning curve. The Coder's Week consisted of three tracks, namely Machine Learning, Blockchain and Android App Development. With an eye on beginners as well as to brush up on the novices, the event was divided in two phases -

- Learning phase
- Project phase

The learning phase was of 6 days, in which carefully curated online learning material like YouTube videos, documents, links to GitHub repositories and important websites were provided. Each day, participants had to complete a task pertaining to a dedicated topic and update it to their respective GitHub repositories.

IEEE STUDENT CHAPTER

APSCRIPT



The poster for the APSCRIPT Hackathon features a dark blue background with glowing cyan text and icons. At the top left is the logo for PCT'S A. P. SHAH INSTITUTE OF TECHNOLOGY. At the top center is the IEEE COMPUTER SOCIETY APSIT STUDENT BRANCH CHAPTER logo. At the top right is the IEEE APSIT Student Branch logo. The main title 'APSCRIPT' is in a large, stylized, glowing cyan font. Below it, the word 'HACKATHON' is written in a smaller, spaced-out, glowing cyan font. There are four icons representing the tracks: a brain for Machine Learning, a blockchain for Blockchain, a play button for App Development, and a globe for Web Development. Below the icons, the three rounds are described: Round 1: Introduction to the Solution (YouTube video), Round 2: Model Presentation (Google Meet), and Round 3: Fully Baked Model (final presentation). The dates '7TH - 8TH FEBRUARY' are at the bottom.

ROUND 1 Introduction to the Solution
Participants will be required to make a YouTube video of less than 3 minutes, outlining their solution to the given problem and how they plan to implement it. Detailed documentation is expected here. A working model, though not required, will gain more points. Selection - Top 30% teams from each track will qualify for the next round.

ROUND 2 Model Presentation
Participants will present their models to the judges via Google Meet platform. The judges will give suggestions and allocate points. Selection -Top 15 teams will qualify for the final round.

ROUND 3 Fully Baked Model
The final model (including the incorporated suggestion, if any) will be presented before the judges by the participants.

7TH - 8TH FEBRUARY

IEEE APSIT organised its biggest event yet with a 48-hour hackathon extravaganza, ApScript. The event got favourable reception from 586 participants, who were divided into 113 teams. It was supported by almost 100 campus ambassadors and 26 sponsors and community partners. Rewards worth INR 10,00,000 were bestowed in this event.

Tracks:

Four tracks were featured in ApScript, to make it accessible and pleasing:

- Blockchain
- Machine Learning
- App Development
- Web Development

IEEE STUDENT CHAPTER

APSCRIPT Winners

Team:-

- Rajan Khade
- Aditya Shinde
- Amit Pandey
- Dhruva Mhatre
- Prem Vispute



CERTIFICATE OF APPRECIATION

awarded to

Dhruva Mhatre

In recognition of being placed 1st in ApScript,
a 48-Hour hackathon conducted by IEEE APSIT on
6-7th February 2021.



Dr. Sameer Nanivadekar
Dean Administration, APSIT



Prof. Hiran Deshpande
Faculty In-Charge, IEEE APSIT



Dr. Uttam Holekar
Principal & Branch Counsellor,
IEEE APSIT



Authenticity of this document can be verified at <http://givemycertificate.com/verify/2102005441000026>

IEEE STUDENT CHAPTER

Role of IEEE for Society and Environment



On the 3rd of August 2019 our college A. P Shah Institute of Technology organized a session for students of Information Technology and IEEE Members. This session was organized under the guidance of HOD of Information Technology. The session was taken but Dr. B. Satyanarayana, Scientific Officer(H), Tata Institute of Fundamental Research, Mumbai. The department has organized a course on IEEE for the students where students can enroll themselves and get the benefits of learning technologies like Machine Learning and IEEE. The main motto of this session was to give the basic idea about what Machine Learning and IEEE is to the students who have enrolled themselves to the Machine Learning course.



IEEE STUDENT CHAPTER

Machine Learning



On the 3rd of August 2019 our college A. P Shah Institute of Technology organized a session for students of Information Technology on Machine Learning. This session was organizing under the guidance of HOD of Information Technology. The session was taken but Mr. Ajinkya Kolhe, Google, Data and ML Instructor. The department has organized a course on Machine Learning for the students where students can enrol themselves and get the benefits of learning technologies like Machine Learning, Artificial Intelligence.

The session focus on providing basic idea about what Machine Learning and IEEE is to the students who have enrolled themselves to the Machine Learning course. The Bifurcation of students was done in small groups so that every student gets a hands-on experience to it.

Machine Learning, Artificial Intelligence under III Cell for Interested students also enrolled. The expert covered all the topics under Machine Learning and assigned different tasks for students.

IEEE STUDENT CHAPTER

Tensorflow Event



TensorFlow All-Around Mumbai

WELCOME NOTE

Mr. Ali Mustufa
Software Innovator @Intel,
Organizer TensorFlow
India User Group

Join us:
October 26th 2019
@g.page/apsit

IEEE APSIT Student Branch

The APSIT student branch of IEEE organised an interactive, fun session on Tensorflow 2.0 on 26 October 2019. The objective of the session was to educate the young generation on the immense scope and uses of Tensorflow 2.0, as well as Machine Learning. Mr. Santosh Chapaneri, assistant professor at SFIT and former Microsoft employee; and Mr. Indranil Chandra, researcher and innovator, were the guest speakers at the session.



TensorFlow All-Around Mumbai

ADVANCES IN MACHINE INTELLIGENCE

Mr. Santosh Chapaneri
MS in ECE from the
University of Arizona.
Ex-Microsoft,
Currently Assistant Professor
at SFIT

Join us:
October 26th 2019
@g.page/apsit

IEEE APSIT Student Branch

The event began at 10 a.m. with the college's resident Google certified educator and ML trainer, and head of IEEE APSIT student branch, Mr. Ali Mustufa Shaikh, felicitating the guest speakers with a Goddess Saraswati idol, as a token of welcome and appreciation. Mr. Ali then proceeded to hold an introductory lecture. Online quiz games were held to involve the audience, and the winners were given various goodies as prizes. Mr. Santosh then took over to deliver a lecture on neural networks. He spoke about their uses in ML/DL and the basic concepts involving them. Mr. Indranil's lecture was held after Mr. Santosh's lecture. The focus of his lecture was on Tensorflow 2.0. He spoke at length about its advantages over the previous version and also gave a brief talk on neural networks. Mr. Indranil's lecture also involved explaining a sample code.

IEEE STUDENT CHAPTER

Tensorflow Event



The poster features the TensorFlow logo at the top, followed by the text 'TensorFlow All-Around Mumbai'. Below this, it says 'TENSORFLOW 2.0' and '@indranilchandra'. The speaker's bio reads: 'Innovator | Maker Engineer | Researcher & Aspiring Social Entrepreneur'. The event date is 'October 26th 2019' with the link '@g.page/apsit'. At the bottom, it shows the 'IEEE APSIT Student Branch' logo. A circular inset photo shows a man speaking at a podium.

The Tensorflow 2.0 event saw a good turnout. The audience gave positive feedback on the session. The simple manner in which the speakers explained advanced topics was appreciated by everyone. The online quiz games were also fun for the audience. All in all, the event was a success.

Student Testimony

"IEEE has given me an excellent opportunity to enhance my management skill set. While I was a part of IEEE, I was exposed to numerous circumstances where I managed to learn valuable insights and skills on soft skills and networking and also had a great opportunity to meet a circle of experienced professionals. IEEE APSIT provides a platform to learn, share and appreciate meaningful and innovative work and eventually become a connecting thread to all our professional endeavors".

- By-Rushika Ramane, TE IT

COMPUTER SOCIETY OF INDIA

CODE-ATHON 1.0

APSIT's Department of Information Technology in Association with Computer Society of India had organized CODE-ATHON 1.0 It's was a 3-hour coding challenge. Participants were given various problem statements that they had to solve using any Programming Language of their choice.

Date & Time: 24th May 2020, 2 P.M. onwards

Mode: The competition will be held online on hackerrank.com

Rules: Find the correct solution before your friend does!!!

Who can participate: All students from APSIT, branch, or year no bar

Prizes

1st Place: Amazon coupon worth Rs. 1000

2nd Place: Amazon coupon worth Rs. 700

3rd Place: Amazon coupon worth Rs. 500

Participation Certificate to all! ✓



The poster features three logos at the top: a shield with a code symbol, the APSIT logo, and the Computer Society of India logo. Below the logos, the text reads: 'Department of IT in association with Computer Society of India presents CODE-ATHON'. The event date is 'MAY 24' and the slogan is 'FLAUNT YOUR SKILLS THIS LOCKDOWN'. Contact information for queries is provided: RUTWIK: 8779519343 and SAMEER: 8779170960. A QR code for free registration is also present.

Department of IT
in association with
Computer Society of India
presents
CODE-ATHON
FLAUNT YOUR SKILLS THIS LOCKDOWN

MAY 24
QUERIES
RUTWIK: 8779519343
SAMEER: 8779170960
FREE REGISTRATION

COMPUTER SOCIETY OF INDIA

CODE-ATHON 1.0



Testimony

Coder's week initiative by the IT Department of A.P. Shah Institute of Technology was a great way of being introduced to technologies. I hosted the game development session in which students learned about the fundamentals required to create a fully functional game and developed their first game during the session using Unity Game Engine.

-By Tejas Raibagi - TEIT



PLACEMENTS

OUR RECRUITERS

Parshvanath Charitable Trust's
A. P. SHAH INSTITUTE OF TECHNOLOGY

Our Recruiters

Training & Placement Cell

39 Students were placed during AY 2019-20.

Testimony

To help students in getting the best industry opportunities our training & placement cell provides various training programs & placement opportunities. We strive hard for overall development of students. Our students are placed in top-notch IT core companies during Academic Year 2019-20.

-By Prof. Nahid Shaikh, TP Coordinator.



ARTICLES



Quantum Internet

Yogendra Kokamkar, BEIT

The Race to Build An Unhackable Online Environment

Many of us have uploaded our stories to the internet. Banking, work emails, Tradings, medical records – all that is vital, sensitive information. So it is little discomfoting that the internet has a fatal security flaw. Our private information is safe for now. But before any long, the encryption algorithms that protect us online are going to crack.

That is the urgent need behind a new, more secure kind of internet that leverages the power of the quantum world. Once up and running, the system will be able to do a lot more than protect our data.

The quantum internet is a network that will let quantum devices exchange information within an environment that harnesses the strange laws of quantum mechanics.

In the quantum realm, data can be encoded in the form of qubits, which are created in quantum devices like a quantum computer or a quantum processor.

And the quantum internet will involve sending qubits across a network of multiple quantum devices that are physically separated but virtually connected.

Thanks to the dense properties that are novel to quantum phases.

Quantum security points us to the theory of quantum cryptography which uses physics to manifest a crypto system secure against being compromised without the knowledge of the sender or the receiver of the messages.

Typically, quantum cryptography is based on the usage of individual particles/waves of light (photon) and their fundamental quantum properties to develop a solid cryptosystem.

Quantum cryptography uses photons to transfer a key. Once the key is transferred, coding and encoding using the normal secret-key method can take place.

Here, the key is encrypted into a series of photons that get passed between two parties seeking to share secret information. The Heisenberg Uncertainty Principle states that an adversary can't look at these photons without modifying or destroying them. According to this principle, only the sender and receiver can access the data and if some unintended person tries to access the data, the data will for sure change or destroy.

By leveraging this technology, we can certainly create an 'unhackable' online world.



Flutter

Vedangi Naigaonkar, TEIT

Flutter- The future of App Development?

Well, as rhetoric as the title seems to be, the very first question which pops up in mind is what is development? Development means to progress on something or to be better at what we are going. In the context of what this article has been written, this explanation doesn't seem to fit. Right? Then let me take you to the other main part of the title, "App Development"

The process of development started when the World Wide Web (WWW) came into existence. Through that came the concept of web development which led to the invention of the Hypertext Markup Language (HTML) in 1990. The other part of development is the App Development or Application Development which began somewhere after 1997. The iPhone was released in June 2007 and it rose to critical and commercial success. Native apps were developed, and just over a year later, the App Store was launched. Android began in 2003 as a project of the American technology company Android Inc., to develop an operating system for digital cameras. In 2004 the project changed to become an operating system for smartphones.

So, what exactly is App Development? The operating system is the core of any device; be it a laptop or a mobile phone or a small tablet. They all have one thing in common which is 'An Operating System'. Since its inception - iOS and Android, these two Operating Systems became a huge hit and have progressed since then. The iOS and Android, which go hand in hand are rivals. Both of them have been developed in separate programming languages and have their unique specialties. The "Applications" or "Apps" which run on them have their features as well. Apps are those products that make the life of a user simple. They not only serve various functionalities but can also have monetary profits. Thus, Apps are designed to make the life of a user as well as the developer easy.

After all these pros, there are some cons too. One of the major cons in developing apps for these two OS is the language barrier. iOS App work in Swift programming language while Android apps work in Java and Kotlin. Developers are forced to choose between either building the same app multiple times for multiple operating systems or accepting a lowest common denominator solution that trades native speed and accuracy for portability. Quite a problem, right? But here comes a solution- Flutter. With Flutter, we have a solution that gives you the best of both worlds: hardware-accelerated graphics and UI, powered by native ARM code, targeting both popular mobile operating systems. Flutter doesn't replace the traditional Apple and Android app models for building mobile apps; instead, it's an app engine that you can either embed into an existing app or use for an entirely new app.

Let's think of Flutter as a complete solution to all this. Flutter is fast, enables you to build beautiful apps. It is also productive and the main and best part is that it is open source. It uses the Dart programming language which is similar to Python. It is developed by Google. There are various packages in Flutter that can be installed at your convenience and to enhance the user experience. Flutter uses Hot reload (which is one of my favorites) feature to quickly install the App and see the changes made. We can modify our code and see the differences within a matter of a few seconds. Dart also has its packages. With a great User Interface, Flutter provides the concept of widgets that ensure that they are consistent for development and design.

Flutter is powered by the same hardware-accelerated Skia 2D graphics engine that underpins Chrome and Android. Flutter is an open-source project with a BSD-style license and includes the contributions of hundreds of developers from around the world. In addition, there's a vibrant ecosystem of thousands of plug-ins. And because every Flutter app is a native app that uses the standard Android and iOS build tools, you can access everything from the underlying operating system, including code and UI written in Kotlin or Java on Android, and Swift or Objective-C on iOS.

The Future of Flutter has already begun. On May 18, 2021 Flutter 2.0 was announced. It introduced the concept of Flutter Web which is an extension to the previous version of Mobile-App only Flutter. Apart from this, Flutter provides Firebase connectivity, null safety, and much more. Thus, Flutter is a complete package for any type of Mobile or Web App Development.

Flutter has a great future ahead. In the coming times, all major apps will be developed in it. Many large companies have already started using Flutter because of its cross-platform sustainability. Within three years of its inception, Flutter has managed to be one of the hot topics for anyone keen on App Development. Until then, keep coding. Ciao!



Blockchain

Sanjana_Nalawade, TEIT

Blockchain Technology: Road to transform India

Blockchain innovation is being hailed as the following huge thing by scientists and technologists, with applications going from finance to retail to healthcare. Blockchain may appear complicated, and it can be, but its core concept is actually quite simple. A blockchain is essentially a type of database. To understand blockchain, we must first understand what a database is.

A database is a collection of data that is electronically stored on a computer system. Database information, or data, is typically organised in table format to facilitate searching and filtering for specific information.

So the question is,

what is the difference between using a spreadsheet to store information and a database?

Spreadsheets are intended for storing and accessing limited amounts of information by a single person or a small group of people. A database, on the other hand, is intended to contain substantially larger volumes of information that can be accessed, filtered, and changed rapidly and simply by any number of users at the same time.

Large databases do this by storing data on servers comprised of powerful computers. These servers can occasionally be built with hundreds or thousands of processors to provide the computing power.

While a spreadsheet or database can be accessed by anybody, it is usually owned by a business and maintained by an assigned individual who has complete control over how it functions and the data contained inside it.

So how does a blockchain differ from a database?

The way data is structured differs significantly between a traditional database and a blockchain. A blockchain gathers information in groupings, often known as blocks, that hold sets of data. When a block's storage capacity is reached, it is chained onto the previously filled block, producing a data chain known as the "blockchain." All new information that follows that newly added block is compiled into a newly formed block, which is then added to the chain once it is complete.

A database organises data into tables, whereas a blockchain, as the name suggests, organises data into chunks (blocks) that are chained together. As a result, while all blockchains are databases, not all databases are blockchains. When implemented in a decentralised manner, this method creates an irreversible data timeline. When a block is completed, it is imprinted in stone and becomes a part of this chronology. When a block is added to the chain, it is assigned a precise timestamp.

Blockchain

Blockchain is a method of storing information in such a way that it is difficult or impossible to modify, hack, or scam the system.

A blockchain is essentially a digital ledger of transactions that is replicated and distributed across the blockchain's complete network of computer systems. Each block on the chain contains a number of transactions, and whenever a new transaction occurs on the blockchain, a record of that transaction is added to the ledger of every participant. Distributed Ledger Technology (DLT) refers to a distributed ledger administered by several individuals.

This means that if one block in a chain was modified, it would be obvious that it had been tampered with. To disrupt a blockchain system, hackers would have to modify every block in the chain, across all distributed versions of the chain.

Blockchains such as Bitcoin and Ethereum are constantly growing as blocks are added to the chain, considerably increasing the security of the ledger.

How blockchain can transform india?

Ledgers are essential. All money and assets on the planet are simply entries in a ledger. When you send money from London to India, the physical money does not fly there, but the entries in your and her ledgers do. Unfortunately, the way the system is set up presently, there are a slew of intermediates between you and her, all of whom have ledgers that must be reconciled. This creates friction, which creates time delays and costs.

Blockchain's essential characteristics—consensus, trust, immutability, provenance, and smart contracts—can provide us with transformative application cases.

Let's take agriculture as an example. Farming is in trouble, with 119 million farmers, 16% of the country's GDP, and around 8,000 farmer suicides per year.

In India, for example, farmers have gone on strike. The causes of the issue are well understood: inefficient subsidy management, a lack of insurance and loans, tiny land holdings, a lack of automation, and a lack of information. The blockchain is most equipped to addressing such issues.

For example, the blockchain may fuel tractor and farm equipment sharing via an Uber-like model. To tackle the mechanisation problem, you can go a step further and have fractional ownership of tractors with multiple-party financing.

Farm subsidies can be managed considerably more successfully using blockchain-based procedures. The blockchain is likely the greatest technology for digitising land records and so providing immutable ownership and provenance. Going a step further, one can leverage a blockchain's Digital Autonomous Organization capabilities to consolidate land ownership in a fair and equitable manner.

The other major transformational issue in India is electricity, particularly in rural areas. The existing centralised model of electricity—one central power plant with widespread distribution—is one of the major reasons for the lack of electrification.

This works well in crowded urban areas but fails in sparse rural areas due to cost and leakage issues. Electricity must be generated where it is needed, mostly through clean sources such as solar, wind, and biogas in rural regions

While this is feasible, many times the economics do not work—there are surpluses and deficits with no infrastructure or technology to manage them.

Power from a surplus house can be automatically transferred to a deficit house using smart microgrids powered by blockchain and the Internet of Things, and payments can be settled using a smart contract.

There are other transformational application cases in education and health. One of the issues in higher education is a lack of funding, as banks are concerned of fraud and bad loans. The NITI Aayog-led Indiachain effort is attempting to address this issue by using blockchain to store and authenticate educational degrees.

The opportunities are endless. However, we must recognise that the technology is still in its infancy and has numerous flaws. Some of these use cases may be true, while others may not.

However, several governments have begun to experiment: Estonia is putting everything on a blockchain, creating "a country as a service"; Dubai, Canada, and Japan are joining the race; even Mauritius has dubbed itself "Ethereum Island"!

While the finance minister's mention of blockchain and efforts like Indiachain are encouraging, much more has to be done to actually alter India—and make it a "blockchain nation."



Bitcoin

Uddhabendra Maity, TEIT

The Bitcoin System

Bitcoin is a cryptocurrency that works on blockchain technology. It was created in 2009 by pseudonymous Satoshi Nakamoto. To understand bitcoin we need to first understand what a cryptocurrency is and the advantages of having cryptocurrencies.

Cryptocurrency is a digital currency that does not rely on banks for transaction verifications. It uses cryptography and is difficult to forge because of this security feature. There is no physical coin or bills involved, everything exists electronically. Cryptocurrency has made it easier to send and receive payments from anywhere to anyone because of its peer-to-peer system. Payments made are recorded as digital entries to an online database containing specific transactions. These cryptocurrencies are usually built using Blockchain technology that acts as a digital ledger of transactions.

Blockchain helps in making digital money decentralized, hack-proof, and digitally scarce. Normally in a centralized system, when two parties initiate a transaction, a ledger is maintained by the bank or an intermediary to validate the digital transaction. An amount is deducted by the bank authority from both parties for these provided services. Blockchain helps in maintaining this ledger in a decentralized way where no authority is required to maintain the ledger.

When two parties initiate a transaction, the blockchain assigns a cryptographically created hash or reference number. The transaction is recorded on a block which is then duplicated and distributed among other parties but cannot be edited. This transaction block is then verified using previously distributed blocks and is then appended to the other blocks creating a chain. The blockchain transaction is now complete and the ledger is updated.

Now coming back to Bitcoin, it is a form of digital cash maintained by a network of users. As an open-source network, anyone can become a user by downloading the software on their machine and then connecting to the Bitcoin network through the internet. Users on this network can do transactions with each other. When a transaction is made, all the users on the network can check the transaction to ensure its verification. This can be done by checking if the coins in the transaction really exist and if they belonged to the person sending the transaction. Since a public distributed ledger is maintained, no one can be cheated. New coins are created by using a process called "mining," which requires miners to solve computational puzzles. In what is called a lottery system, every 10 minutes a miner is rewarded with a new bitcoin. At first, it was 50 coins every 10 minutes, but this number drops every four years until, by the year 2140, the reward drops to zero. Till then, there will be 21 million coins in circulation, and there will never be more.



Flying Car

Tejas Raibagi, TEIT

The idea about flying cars has been around for over decades. How cool would it be if you can fly around and skip the annoying traffic and save hours on your travels? Now flying cars have finally become reality. A prototype of the flying car has successfully completed a test flight of 35 minutes between two cities in Slovakia.

The flying car has been developed by Klein Vision. According to the company, the AirCar Prototype 1 is powered by a 160 horsepower BMW engine and comes equipped with a fixed propeller. It transforms from aircraft to road vehicle in less than three minutes. It has also completed a total of 40 hours worth of test flight, including cruising at 8,200 feet and with a maximum speed of 118 mile per hour. The company is working on AirCar Prototype 2 which will be packed with a better 300 horsepower engine and will be able to achieve a maximum speed of 189 miles per hour with a range of 621 miles. According to the information available on their website Klein Vision has plans to develop three and four seater versions along with twin engines and an amphibious version.

"AirCar is no longer just a proof of concept. It has turned science fiction into a reality" - Anton Zajac.



BLUE EYES TECHNOLOGY

• Jahnavi Naik, TEIT

BLUE EYES TECHNOLOGY Machines can see and feel too

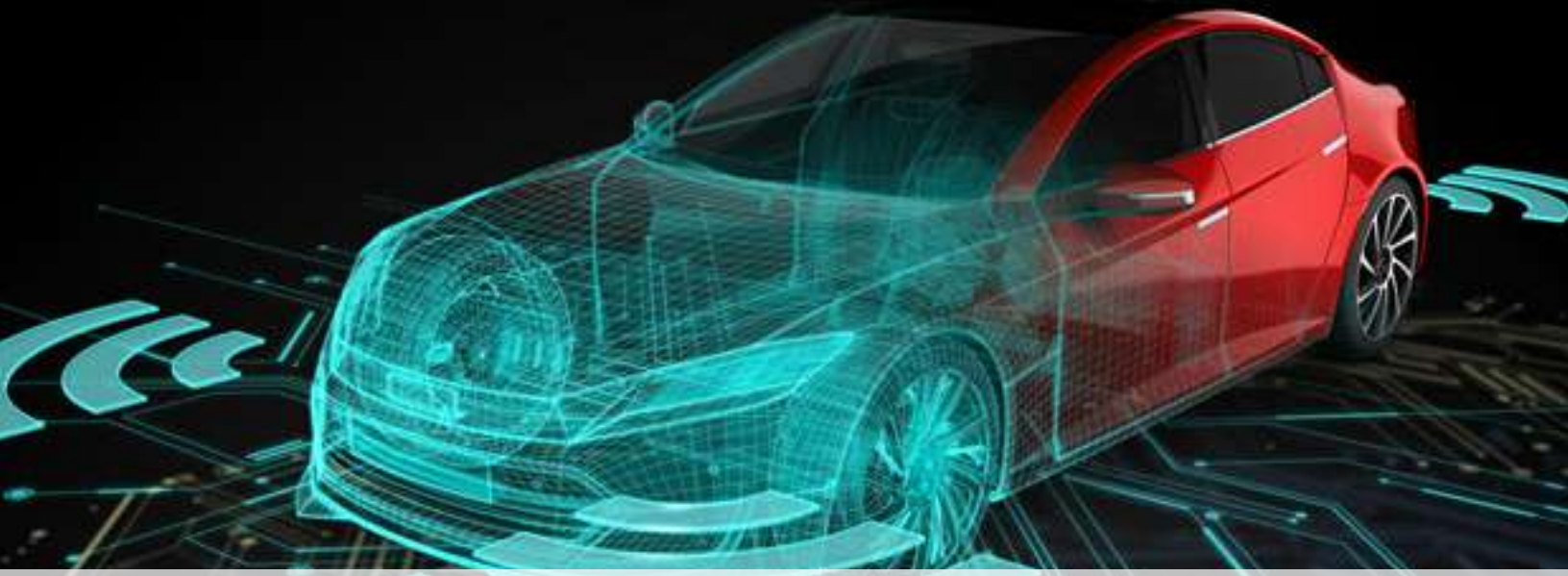
Blue Eyes Technology is a project initiated by the research team of IBM at its Almaden Research Centre (ARC) in San Jose, California, who have been researching it since 1997. The term was coined by putting together two words; "blue" stands for Bluetooth, which enables reliable wireless communication, and "eyes" represents the human eye, the movement of which can produce useful information. The goal behind 'Blue Eyes Technology' is to introduce the concept of machines being able to understand and mimic human perceptual powers and respond to them accordingly.

Blue Eyes Technology aims to create computers that can communicate with humans naturally, and interact with people as we do amongst ourselves. Similar to how human beings can perceive varied facial expressions and derive emotional responses, the ideal machine should be able to gather data about the user's physiological condition and react in accordance to the user's mood. It does so through the use of microphones and cameras, to record the human operator's actions. By monitoring and recording attention abilities, humans could have a more intimate relationship with machines than previously thought possible.

The hardware for the Blue Eyes Technology consists of two major components: the Data Acquisition Unit (DAU) and the Central System Unit (CSU). Bluetooth is implemented for the two units to communicate and coordinate with each other via a personal area network. The software of Blue Eyes Technology continuously supervises the user's emotional condition. It responds to the user in real-time. The software records user information (audio, video, physiological) and transfers it to the data analyzers. The supervisor is provided with a GUI module that informs about these parameters. Some intelligent devices implementing Blue Eyes Technology are Emotion Mouse, Simple User Interest Tracker (SUITOR), Manual and Gaze Input Cascaded (MAGIC), and Artificial Intelligent Speech Recognition.

Blue Eyes Technology reduces manual labor and increases efficiency by monitoring and studying human behaviors and responding appropriately. Supervisors and managers could utilize this technology as an advantage by having tailored data produced about their employees.

But (unfortunately, its system is very bulky, and not completely accurate, therefore proving to be highly expensive to implement in reality. However with AI cementing itself as automation of convenience, soon there might come a day where Blue Eyes is implemented in industrial and commercial sectors, and perhaps even households. Blue Eyes attempts to simplify human life in a user-friendly way and provides elegance to society.



Autonomous Driving

Greshma Sapra, TEIT

Autonomous Driving – Easy, Safe Driverless Drive

How can an industry tell whether it's going through a disruptive change?

One of the most distinguishing features of such transition is that technical innovation is no longer driven by the traditional industry leaders, but by new companies.

The automobile sector is now undergoing such a transformation. Two technological trends are driving it: the first being Electromotive and the second is Autonomous Driving, which is the most significant contemporary technology development.

"Driving is a skill that must be learned – this not only applies to people but is also true for automated and autonomous vehicles."

An autonomous vehicle is a vehicle equipped for detecting its current circumstance and working without human association. At no point is a human passenger necessary to assume control of the car, nor is a human passenger required to be present in the vehicle at all. A self-driving car can go wherever a regular car can go and accomplish everything a skilled human driver can do. The Society of Automotive Engineers (SAE) currently defines 6 levels of driving automation ranging from Level 0 (fully manual) to Level 5 (fully autonomous).

Now the question how do these cars actually work?

Autonomous vehicles depend on sensors, actuators, complex calculations, AI frameworks, and well-built processors to execute programming. Self-driving vehicles make and keep a guide of their environmental factors dependent on an assortment of sensors arranged in various pieces of the vehicle. Radar sensors screen the situation of close-by vehicles. Video Cameras distinguish traffic signals, read street signs, track different vehicles, and search for walkers. Lidar (light discovery and going) sensors skip beats of light off the vehicle's environmental factors to quantify distances, recognize street edges. Ultrasonic sensors in the wheels distinguish checks and different vehicles when leaving.

Different AI calculations, basically Computer Vision, are utilized to deal with the data from the sensors, to identify the entirety of different vehicles out and about around it. Such a framework would in a perfect world have the option to recognize where the vehicles are, the way huge they are, and how quick and what direction they're moving. In all actuality, these frameworks are intended to outline the whole climate around the vehicle.

Autonomous vehicles can possibly turn into a multi-trillion dollar industry. With enormous freedom comes large contest and there's no deficiency of that in this space. There are a couple of huge players including:

Tesla: All Tesla cars which are equipped with the appropriate cameras are used for collecting new training data.

Waymo: Waymo is a self-driving car company owned by Google. A big edge for Waymo is that they manufacture their own proprietary hardware for their cars.

Uber & Lyft: Uber and Lyft are both very popular ride-hailing companies and are in the perfect position to capitalise on self-driving cars. They're building their own fleets of self-driving cars equipped with cameras, radar, and LiDAR - multiple LiDARs in the case of Lyft.

Future of these cars?

In the wake of seeing the entirety of this cutting edge innovation and the huge headways being made, one asks: what distance away would we say we are from all out, Level 5 self-driving vehicles?

Some accept that the innovation is not exactly a couple of years away. Elon Musk guarantees that "in 12 month's time, we'll have over 1,000,000 vehicles with full self-driving". Furthermore, that absolutely might be conceivable.

Artificial intelligence is working on staggeringly quick with billions of dollars of subsidizing being filled state of the art research.

The genuine guarantee of self-ruling vehicles is the potential for significantly bringing down CO2 outflows, which would release the maximum capacity of independent vehicles: vehicle robotization, vehicle zap, and ridesharing.

These three revolution will definitely result in:

- Reduce traffic congestion (30% fewer vehicles on the road)
- Cut transportation costs by 40% (in terms of vehicles, fuel, and infrastructure)
- Improve walkability and livability
- Free up parking lots for other uses (schools, parks, community centers)
- Reduce urban CO2 emissions by 80% worldwide.

Less pollution, less traffic, more efficiency, and safer driving can all be expected when cars become self-driving. Thus to conclude, the innovation is moving the correct way and will ideally get a brilliant, self-ruling future.



Neuromorphic Computing

Utkarsha Potdukhe, TEIT

Neuromorphic computing is a method of computer engineering in which elements of a computer are designed to mimic the human brain and its nervous system. This computing is a rapidly growing area of computer science research. In this type of computing, computers are used to mimic the brain wherein specialized computer chips replicate the way the human brain processes multi-fold information. This area not only allows neuroscientists to create new models of the brain, but it also allows robotics experts to develop robots that can navigate intricate environments using computer vision.

The working of this computing involves assembling of artificial neurons based on functions of the human brain. These artificial neurons and synapses are responsible for transferring information similar to that of living neurons. Neurons communicate with each other through spikes of electrochemical energy. Hence, it works on Spiking Neural Networks, where each neuron sends independent signals to other neurons.

Talking about its latest application, Intel Labs has developed a neuromorphic research chip named Loihi in the year 2018 which includes many digital circuits that exactly mimic the brain's basic operations.

Some of its potential applications includes: Driverless cars, Natural language understanding, smart home devices, Adaptive Robotics Researchers are hopeful that neuromorphic computers will solve more real-time complex field problems



Video Games

Akansha Rawat, SEIT

How an Online Videogame Accurately predicted the Pandemic Outburst

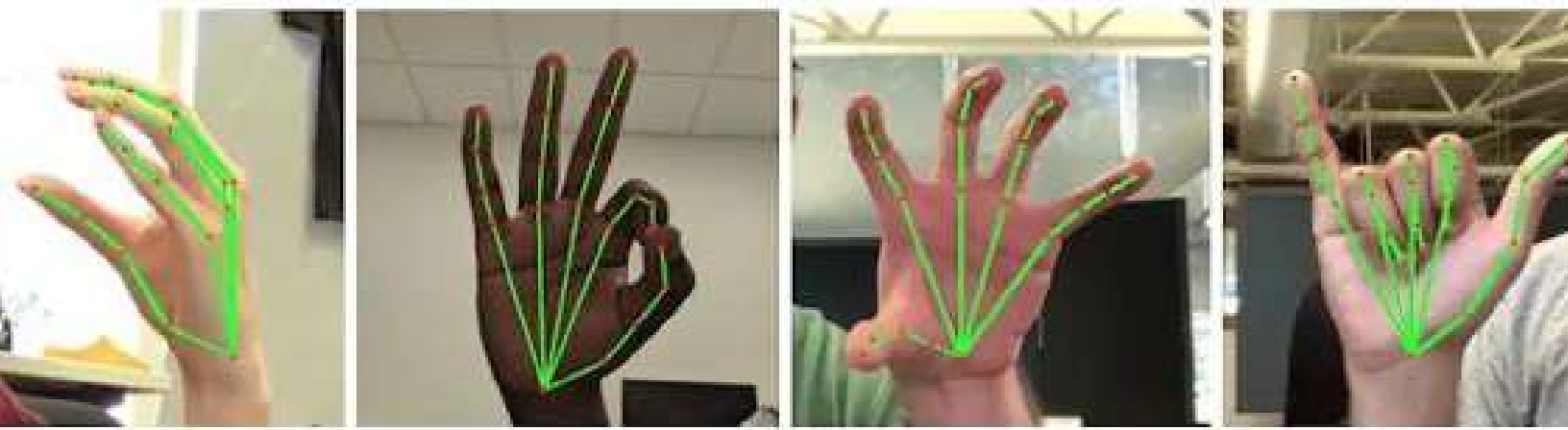
Let me take you back to 2005. It had only been about a year since World of Warcraft, commonly known as WoW went online. WoW is a Massively Multiplayer Online Role-playing Game of MMORPG. It featured a massive map consisting many cities and villages. For 2005, it was truly a massive game. Players could build their own custom characters and join their friends to battle enemies. Even to this date, this game, launched in 2005, still boasts over 2,202,986 daily players and over 115,946,619 total players.

Now that you know a little about the game, let me take you back to a specific date, September 13th, 2005. This was the date on which a new part was added to WoW's existing map and it featured a new questline with a final boss. It was suggested that only players having maximum in-game levels attempt this questline because of how difficult it was. The centerpiece of this questline was the final boss by the name of "Hakkar the Soulflayer." Hakkar was a unique boss. While fighting him, if a player got too close to him, the player would get affected by a debuff (an effect that makes the player weaker) that would reduce the player's health points over-time. This was known as the "Corrupted Blood" ability and that's where the entire incident gets its name from.

In addition to reducing health points, this debuff also spread to anyone who was near the infected character and thus we see how it imitated a real-life epidemic. Now, the developers had designed this entire level and the Corrupted Blood ability in a way that every time the player exited the boss location, the debuff would be instantly removed from the character. This made sure that the debuff wouldn't spread to anyone who isn't in the boss location. What the developers missed, however, is that players could have "pets" or "companions" with them which could also get infected. What ended up happening was, any of the players that had pets and had visited the boss location, instantly had their debuff nullified when they exited the location, but their pets still had that debuff. In turn, the pets spread the debuff to their owners and the owners now spread the debuff to anyone who came in contact with them even if they were outside the boss location. And thus started the epidemic of WoW.

As we can see, this is also how epidemics can spread in the real world, through animals. But that isn't where the similarities stop. Once outside the boss location, an infected character spread the debuff rapidly, infecting everyone in their vicinity, even NPCs (non-playable characters.) These NPCs provided players with new quests and because the NPCs are not actual players, they did not show any signs of the debuff like health point damage. In a way, they became the asymptomatic carriers of the virus. The real-life parallels did not end here either. 2005 was an age before WhatsApp or Instagram. The only way for people who were not in the infected city to see what the debuff was like, was to go to the city, which they did and in turn, even these characters got infected. When these characters tried to run away from the debuff, they ended up infecting smaller places where the debuff hadn't spread yet. A community-wide voluntary lockdowns were implemented, and eventually, the developers fixed the code and everything returned back to normal.

The "Corrupted Blood" incident was by far, extremely accurate in it's real-world parallels down to the way people behaved in those situations. This got the attention of the CDC or Center for Disease Control and numerous papers have been published regarding the same. In one of these papers, the idea of using MMORPGs as testing grounds for disease outbreak research was proposed. So the next time someone tell you that video-games are a waste of time, tell them about how they almost prevented an outbreak.



LIFE WITH GESTURES

Sakshi Naik, SEIT

To think about future technologies is an unavoidable, unpredictable concept. Nowadays people come up with new ways to make the future bright. Here is one of the most upcoming futuristic technologies that is Gesture-based computing. Gesture-based computing has received great attention in educational technology. This technology is on the rise in marketing interactions between brands and consumers.

What is Gesture-Based Computing Technology?

Gesture Technologies works on the most featured combination of 3D depth-sensing cameras with IR cameras. Several technologies are being used for gesture recognition, each of which has its own unique advantages and disadvantages. This instead of typing from an input device or tapping on the screen, a motion sensor and sensing cameras are used to capture the motion user.

Considering its types, they are categorized as Offline gestures and Online gestures. In Offline gestures the gestures proceed after the user interaction with the object, and in Online gestures they are used to scale or rotate a tangible object.

This technology may have two approaches one is 3D model based and another is appearance-based, In 3D model based approach can use volumetric or skeletal models, or even a combination of the two, whereas they derive the parameters directly from the images or videos using a template database.

Application Gestures Based Technology

This technology can be used in many fields like Sign Language recognition, Social assistive robotics, control through facial gesture, Gaming console.

Gesture Based Technology results are mapped to infrared control signal and used to control various home appliances with infrared remote control.

Challenges in Gesture-Based Computation Technology

There are many challenges related to gesture based technology like it must process false negatives, gestural user experiences require more processing power than necessary. In order to capture human gestures by visual sensors, robust computer vision methods are also required, for example for hand tracking and hand posture recognition.



DEPARTMENT OF INFORMATION TECHNOLOGY

(ALL BRANCHES NBA ACCREDITED)



PCT'S
A. P. SHAH INSTITUTE OF TECHNOLOGY
SURVEY NO. 12, GHODBUNDER RD,
KASARVADAVALI, THANE WEST - 400615