DEPARTMENT OF
INFORMATION TECHNOLOGY

BITS & BYTES

VOLUME - 2
2018-19

INDUSTRY COLLABORATIONS

OSEL, AWS, Redhat and
Cisco Newtorking Academy

ACADEMIC INITIATIVES

Expression Club, GATE Training, NPTEL,
PBL and more!

STUDENT ARTICLES

Firebase, Li-Fi, Blockchain,
Quantum Computing and more!

Editorial

Prof. Neha Deshmukh
Magazine Editor

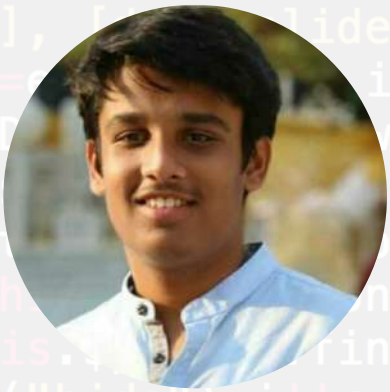
Prof. Anagha Aher
Editor-In-Chief

Prof. Apeksha Mohite
Director

Jahnavi N.
Magazine Head

Sanjana N.
Magazine Co-Head

Soundarya N.
Content Editor



Rutwik G.
Associate Editor

Neelay U.
Graphic Designer

Ashwin V.
Art Director

Principal's Desk

"It brings me great pleasure to announce that A. P. Shah Institute of Technology's Department of Information Technology is releasing their Magazine "Bits & Bytes" for the second consecutive year. The magazine highlights the IT Department's vision: "To be a prime center of excellence by transforming students into globally competent IT professionals."

Inspired by the preceding edition, it is a celebration of all the new heights the students and faculties of our beloved department have reached in the A.Y. 2018-19. It is our sincere hope that the cumulative success of the department's achievements and perseverance will serve as an encouragement to all the young aspiring engineers of our institute.

I commend the Editorial Board behind this magazine for their diligent efforts in putting this collection of triumphs together. I would also like to congratulate the students and faculties on their accomplishments and wish them luck on their future endeavors.

- Dr. Uttam D. Kolekar
Principal
PhD (Electronics and Telecommunication Engineering)

HOD's Desk

It gives me immense pleasure and satisfaction to present to our readers the magazine "Bits & Bytes" from Department of Information Technology for the second consecutive year. This magazine reflects upon a wide spectrum of creative skills from writing to editing and even designing this magazine . It outlines the outstanding contribution made by faculties and students during Academic Year 2018-2019.

As we impart education to match the advancement in technology and globalization ,we also march our students ahead with APSIT's moral values and principles.Teamwork is the hallmark of Information Technology Department.I am very sure that collaborative efforts could let us achieve more to benefit our students and help them grow and develop into sensitive and responsible citizens of the next generation..

I congratulate the entire Editorial Team for their hard work and dedication behind this magazine for making vision to reality. 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

M1: To develop, support and maintain state-of-art infrastructure to serve as a potent resource hub for the IT industries.

M2: To inculcate the problem solving, analytical, logical skills and to promote the culture of creativity and innovation among the students.

M3: 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. 2018-2019

ODD Semester

SEIT

Name	CGPA
Gaikwad Aniket	10
Singh Akshata	10
Rai Abhishek	9.81
Pote Abhishek	9.69
Khumbhar Mandar	9.54

TEIT

Name	CGPA
Naik Varsha	9.96
Kokamkar Yogendra	9.38
Tiwari Jyoti	9.23
Jaiswal Pravin	9.15
Ghadge Manasi	8.88
Jain Mahek	8.88

BEIT

Name	CGPA
Amisha Karia	9.41
Isha Owalekar	9.26
Samrin Baig	9.15
Gargi Surve	8.78
Namrata Joshi	8.70

Results for A.Y. 2018-2019

EVEN Semester

SEIT

Name	CGPA
Sanjana Nalawade	9.81
Mandar Kumbhar	9.69
Akshata Singh	9.62
Abhishek Pote	9.19
Shreya Bhutada	9.15

TEIT

Name	CGPA
Yogendra Kokamkar	10
Varhsa Naik	9.92
Dhananjay Yadav	9.85
Mahek Jain	9.15
Manasi Dudhane	9.12

BEIT

Name	CGPA
Amisha Karia	9.38
Isha Owalekar	9.08
Shweta Patel	8.92
Ashwini Salunke	8.88
Rakesh Sharma	8.77

Perfect 10

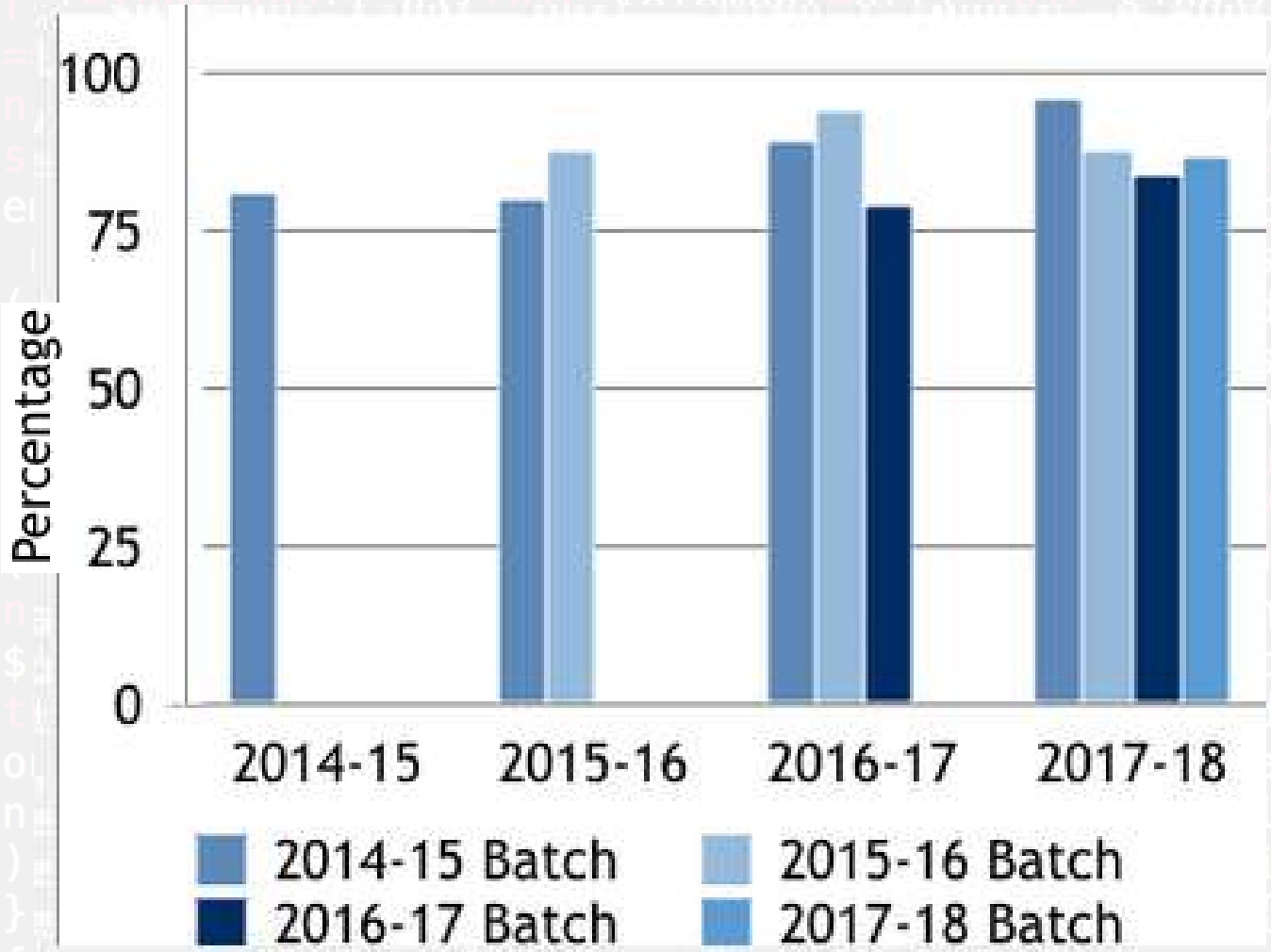
Akshata Singh

The institute has such an amazing faculty that I did not feel the need to join any other extra classes. Every lecture was very well explained with the intention of making everyone well versed with the teaching. And then yes, the hardwork. Putting efforts and learning everything that was taught. It's all about Managing your time, taking effective notes and studying to succeed with good marks in college. Getting a 10 pointer was definitely unexpected and I would like to thank everyone including my parents and teachers for helping me grow.Lastly i would say, there are no secrets to success. It is the result of preparation, hard work and learning from failure.

Aniket Gaikwad

It was unexpected for me to top this semester. I truly feel now the thing that has taken me to get success in exams is hard work. I was a failure in Sem-1, had a backlog in 1 subject. I then tried hard to score good, read books 3-4 times and finally succeeded. Not just hard work, but the support of my parents, institute, and faculty members led me to success. Our institute not only focuses on theory, but as well as practical approach, which is helpful for implementation of our knowledge. "Whenever you get a failure, you should not get disheartened, you must try to work hard as you can as ultimately hard work leads to success.

Result Analysis



Testimony

Department is said to thrive 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

Technical

AWS Certified Cloud Practitioner

- Akash Nair
- Uddhabendra Maity
- Pranav Chauhan

Result

Certified

Smart City Ideathon Domain : Education and Employment

Team Members:

- Debashish Choudhury
- Tejal Tandel
- Utkarsh Naik

Result

1st Rank

Smart City Ideathon Domain:Mobility

Team Members:

- Rutwik Gaikwad
- Prasad Jadhav

Result

1st Rank

Technical

Smart City Ideathon
Domain:Public Health and Security

Team Members:

- Pranav Chauhan
- Sachin Gupta
- Rohit Arava
- Nilesh Jadhav

Result

Runner up

Ali Mustafa Shaikh

Event

- IEEE Conference

Result

Regional Ambadassor

Sitanshu Mathukia

Event

- Eureka Hackathon 18 (3rd position)
- IGNUM
- 4th National Level Technical Paper Presentation(2k17)(participant)

Result

3rd Place
Participant
Participant

Technical

Debashish Choudhury

Event	Result
• Microsoft Technology Associate for HTML5	Certificate Holder
• Site 24x7 (Coding Event)	Certificate Holder
• ManageEnfine Certification Program	Participant

Utkarsha Naik

Event	Result
• Site 24x7 (Coding Event)	Certificate Holder

Dilesh Tanna

Event	Result
• Hackscript 1.0	Winner

Sports

Football

Players	Event	Result
SE IT : Kunal Jadhav	Dnyan Ganga (Rink Football)	Winners
TE IT : Viranchee Patil, Amrut Sardar	Thana College	Winners
BE IT : Kaiwalya Tare, Pritesh Poojary	Dnyan Sadhna (Rink Football)	Runners-up
	LR Tiwari (Rink football)	Winners

OJUS

Players	Event	Result
Shreya Bhutada	Dodge-ball Compitition	Winner
Priya Naik	Table Tennis Singles Girls	Runner-up
Harshita Shah	Chess SIngles Girls	Runner-up
Team IT	Dodgeball	Winner
TEam IT	Kabaddi Girls	Winner

Kabaddi

Sonam Chavan selected as Best Player in Intercollege Competition at Acharya College, Thane.

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.
- Session Chair for the 2018 IEEE 8th International Advance Computing Conference at Bennett University, India.
- Session Chair, 5th International Conference on Innovation & Research in technology and Engineering -ICIRTE 2018, dated 21-12-2018.
- Session Chair, AVISHKAR-2019 at Saraswati College of Engineering, Kharghar, dated 02-04-2019.

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.

Prof. Kiran B. Deshpande

- Developed NBA Status Portal for DTE Maharashtra.
- Worked as a Chairman for Revision of Syllabus (CBCGS) of EXTC Engineering for the subjects Internet Communication Engineering and Computer Communication Network.
- Represented institute in TechInsights event on Modernizing Traditional Apps and Infrastructure by using DevOps organized by ASHNIK Pte. Ltd. Singapore.
- Participated in Workshop on “Artificial Intelligence & DeepLearning” conducted by Leading India AI, Nation with initiative by Bennett University,Greater Noida, India.

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 Seasons of A.Y. 2018-19 based on Performance & Participation of APSIT Students.
- Appreciated by IIT Bombay for spreading Awareness and holding Software Training Workshops through Spoken Tutorial Program of IIT Bombay.

Prof. Nahid Shaikh

- Certified as AWS Certified Cloud Practitioner

STTP

Cloud Computing

Training Completed By:

Prof. Neha Deshmukh
Prof. Apeksha Mohite
Prof. Vishal Badgujar

Machine Learning

Training Completed By:

Prof. Nahid Shaikh
Prof. Anagha Aher
Prof. Poonam Dhawale
Prof. Rujata Chaudhari
Prof. Sunil Sushir

STTP

Core & Advanced Java

Training Completed By:

Prof. Poonam Dhawale
Prof. Rujata Chaudhari

Red Hat Administration

Training Completed By:

Prof. Neha Deshmukh
Prof. Apeksha Mohite
Prof. Sunil Sushir
Prof. Poonam Dhawale

STTP

ELK Stack

Training Completed By:

Prof. Kiran Deshpande
Prof. Nahid Shaikh
Prof Anagha Aher

Building Real World Native Cross Platform Applications

Training Completed By:

Prof. Nahid Shaikh
Prof. Anagha Aher

STTP

Deep Learning and AI

Training Completed By:

Prof. Nahid Shaikh
Prof. Poonam Dhawale

MOMENT OF PRIDE

DTE Portal Development

Rikesh Kamara, BEIT

Active participation in college activities and projects led to the opportunity for me and Shubham Mishra to bag a project from Directorate of Technical Education(DTE), Maharashtra. The requirement was to build a NBA status portal for them. The current system was all manual paperwork wherein they received documents from more than 2000 institutes having more than 6500 programs in them containing details of NBA accreditation with the reasons and all details. So when during report generation it was a tedious task to go through 6500 documents and create a report of accredited programs, non accredited programs and reasons for same. So alone the report generation took up to more than 7 days for a precise report. So the problems in current system was the time it took to generate reports and also the place it required to store these documents for at least 7 years. So we created a portal wherein we overcome all of this problems for them. This portal collects data and stores them effortlessly and the report generation is 4 times more precise and that too just on a button click. The report can then be downloaded in CSV or PDF format and then be presented for documentation or further process.

Reports are now not only college wise or region wise we have given them the feature to have reports District as well as Taluka Wise to get the real time ground level status. Completion of the project would not have been possible without Kiran Deshpande sir and Sachin Malwe sir.

Both of them gave us the freedom to do and try on any methods we thought of and were always available for discussion and brainstorming. Throughout the period of 8 months of the development of the portal we were constantly motivated and guided by both of the professors. Since it was a live project which was supposed to be used by colleges across Maharashtra it was essential to make sure that the security was perfect without any glitches, and we need to assured that all the buttons and the features worked correctly as intended and in this process Kiran Sir and Sachin sir played humongous role in teaching us for same and then going through rigorous testing phase to make sure all the things are on point with no glitches. Along with them we are extremely grateful to the Director Wagh Sir and Joint Director Yavalkar Sir of DTE to be supportive and understanding and gave us a free hand as well considered our requests for a bit delay or push in some deadline. Inputs provided from both of the giants are something to take note of and something which will always help us in years to come. Going through 8 months of work and more than 4 different versions we have been grateful to the college, department and our faculty to give me and Shubham such an amazing life time opportunity to work and learn great from this project. Special thanks to Kiran sir and Sachin sir to guide us and stand by us during the entire process.

म. टा. विशेष प्रतिनिधी, मुंबई

इंजिनीअरिंग कॉलेजांचे मूल्यांकन होणार सुलभ

राष्ट्रीय मूल्यांकन मंडळातर्फे देशभरातील शिक्षण संस्थांचे मूल्यांकन करून क्रमवारी जाहीर केली जाते. विविध निधी तसेच सरकारी योजनांचा लाभ आणि शिक्षण संस्थेला प्रतिष्ठा मिळावी या उद्देशाने या मूल्यांकनाला महत्त्व आहे. राज्यातील इंजिनीअरिंग, पॉलिटेक्निक, एमबीए तसेच फार्मसी कॉलेजांनीही हे मूल्यांकन घ्यावे या उद्देशाने तंत्रशिक्षण संचालनालयाने पुढाकार घेतला असून, यासाठी एक वेबपोर्टल सुरू केले आहे. विशेष म्हणजे हे पोर्टल इंजिनीअरिंगच्या विद्यार्थ्यांनीच तयार केले आहे.

इंजिनीअरिंगच्या विद्यार्थ्यांनीच बनवले वेबपोर्टल

तीन वर्षांमध्ये राज्य तंत्रशिक्षण संचालनालयाने तंत्रस्नेही होण्याचा निर्णय घेतला आहे. यामुळे कॉलेजांचा तपशीलही एका क्लिकवर मिळावा या उद्देशाने एक पोर्टल विकसित व्हावे असे संचालनालयामधील दर्जासुधार समितीचे मत पडले. यानुसार समितीने ठाण्यातील ए. पी. शाह इन्स्टिट्यूट ऑफ टेक्नॉलॉजीमधील विद्यार्थ्यांना यावर काम करण्यास सुचविले. यानुसार संस्थेतील प्राध्यापक सचिन मालवे, प्रा. किरण देशपांडे यांच्या मार्गदर्शनाखाली रिकेश कर्मा आणि शुभम मिश्रा या विद्यार्थ्यांनी nba.dtemaharashtra.gov.in हे वेबपोर्टल तयार केले. यामध्ये मूल्यांकनासाठी कोणत्या गोष्टींची पूर्तता असणे अपेक्षित आहे, याचा सर्व तपशील देण्यात आला आहे. इतकेच नव्हे तर मूल्यांकनास पात्र होण्यासाठी आवश्यक नऊ गोष्टींची पूर्तता संबंधित कॉलेज करते आहे की नाही याची माहिती संस्थाकडून भरून घेतली जाणार आहे. यासंदर्भातील परिपत्रक संचालक डॉ. अभय वाघ यांनी सोमवारी प्रसिद्ध केले.

यापूर्वी कॉलेजांचा तपशील मिळवण्यासाठी संबंधित विभागीय कार्यालयाशी संपर्क साधावा लागत होता. त्यात बराच वेळ जात असे. मात्र आता सर्व कॉलेजांनी माहिती भरल्यावर ती एका क्लिकवर उपलब्ध होणार आहे. यामुळे कोणत्या कॉलेजमध्ये काय त्रुटी आहेत हेसुद्धा समजू शकेल व त्याची पूर्तता करणे सोपे होईल. हे पोर्टल विद्यार्थ्यांनी तयार केल्यामुळे त्यासाठी कोणताही खर्च झाला नाही व विद्यार्थ्यांनाही अनुभव मिळाला.

– डॉ. अभय वाघ, संचालक-तंत्रशिक्षण संचालनालय

तंत्रशिक्षण संचालनालयाकडून या प्रकल्पावर काम करण्यास मिळाले. हा अनुभव विद्यार्थ्यांना खूप काही शिकवणारा होता. पुस्तकी शिक्षण घेतानाच व्यवस्थेसोबत काम करून प्रत्यक्ष कामाचा अनुभव घेणे हे विद्यार्थ्यांसाठी खूपच फायद्याचे आहे.

– डॉ. किरण देशपांडे, प्राध्यापक

Rikesh Kamra

Backend of T&P Cell

Also Being the head of technical team at Institute level, Rikesh was responsible to create and manage the registration links for recruiters drives happening at our Institute on following day. Making the portal apt enough to not only take registrations but also provide T&P cell with a report in csv as well as pdf format. It also enabled T&P Cell to publish results of Recruitment Drives initial rounds which could be then accessed by students.

This Technical support offered by Rikesh ensured smooth conduction of more than 20 University, State & National level drives completed at Institute during Academic Year 2018-2019.

Rikesh Kamra is currently pursuing higher education at The University of Alabama, Birmingham

Unparalleled Achievements

Ali Mustafa Shaikh, TEIT

Ali Mustufa Shaikh is a final year student of A P Shah Institute of Technology, Thane studying in Information Technology branch. Ali is the PoC (Point of Contact) for Google Crowdsource Community, India and President for Infikey.org. He manages Google Cloud Developers Community Mumbai as a co-organizer. He is also the facilitator for Google's Explore ML Academy 2019. He has done 23+ International certification from Google and Udacity for trending technologies like Python, Machine Learning, Digital Marketing etc. He was also awarded 3 digital batches by IBM for his excellence in Cognitive Services, Artificial Intelligence, Chatbots, and Blockchain. He is also Certified by Google for Google Cloud Platform Essentials & Google Websites and Web Applications

Recognized by Google Students for his excellence in communicating with students at a very young age for Computer Science. He was awarded $5000 of cloud credits from Google for his excellent work in ML & Cloud domain. He has won multiple state-level Project Competitions. He was invited as one of the youngest mentors at Smart India Hackathon 2018. He has talked in Colleges like Babu Banarasi Das Lucknow, Parul University, Amity University Lucknow, MIT Pune,Mar Athanasius College of Engineering, MIT Aurangabad, NIT Raipur, Mukesh Patel STME, K J Somaiya Institute of Management Studies and Research, Adi Shankara Institute of Engineering Technology, and 50+ Colleges across India.

He also leads IEEE APSIT Student branch and is a regional ambassador for IEEE Collabratec™ and is also an ML Ambassador for A P Shah Institute of Technology.He also has conducted a faculty training program at Solapur University on Python and Digital Marketing at DAV Velankar College of Commerce, Solapur. With his outstanding leadership and tireless efforts using innovative efforts for building user communities in 4 languages in 2 countries training around 50k+ users, he was awarded Google Crowdsource Community Leader Award 2018.

Impacted over 1 Million+ students by influencing them for the cause of making Indic(Indian solutions) and support their regional languages in India. He has given talks on Artificial intelligence, Machine Learning, Dialogflow, TensorFlow, Chatbots and Motivational talks in IEEE, Google and Facebook DevC Meetups. He was recently invited by Google India to give a talk on Community Building & Local Language Development to the audience from Google HQ and Google Crowdsource Ambassadors around the world in Hyderabad. He was also one of the invitee's of India Community Summit organized by Google DevRel India where 117 Superheros(Influencers) were invited across India for their work in enhancing local community in their area. Ali with his Team won 1st position in the activities arranged by them across 3 days.

LEAD AMBASSADOR
IEEE COLLABRATEC®

THIS IS TO CERTIFY THAT

Ali Mustufa Shaikh

Has completed the Ambassador Program for IEEE Collabratec® fulfilling all training requirements

February – April 2019

IEEE Collabratec

John Day
Director of IEEE Member Products and Programs

IEEE
Advancing Technology for Humanity

PROFESSIONAL STUDENT ASSOCIATIONS

IEEE

Institute of Electrical and Electronics Engineers

5 IEEE memberships were sponsered to students based on their Academic performance during AY 2018-19

IEEE is the worlds largest technical society, bringing Members access to the industrys most essential technical Information, networking opportunities, career development tools and many other exclusive benefits. An IEEE Student Branch provides opportunities to meet and 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". This inaugural event took place on the 22nd of January 2019, by the hands of 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.

CSI

Computer Society of India

45 CSI memberships were sponsered to students based on their Academic performance during AY 2018-19

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

IT Students Association

With a motive to provide 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 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

Meet The Team

Prof. Anagha Aher
CSI Incharge

Prof. Apeksha Mohite
ITSA Incharge

Prof. Nahid Shaikh
TPC 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 Treasure s*

Jyoti Tiwari — *ITSA Co-ordinator*

Hiral Thadeshwar — *ITSA Co-ordinator*

Vedangi Naigaonkar — *ITSA Co-ordinator*

Sitanshu Mathukia — *ITSA Co-ordinator*

Priya Naik — *CSI 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 COLABRATIONS

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. OSEL is well equipped with the latest hardware. Guidance is provided to the students by a team of professors and committee members. The lab is kept open after the college hours to enable the students to engage themselves in getting practiced with Open Source Technologies in their leisure hours. The lab will be used to train the students to make experiments to get familiar with the emerging open source technologies.

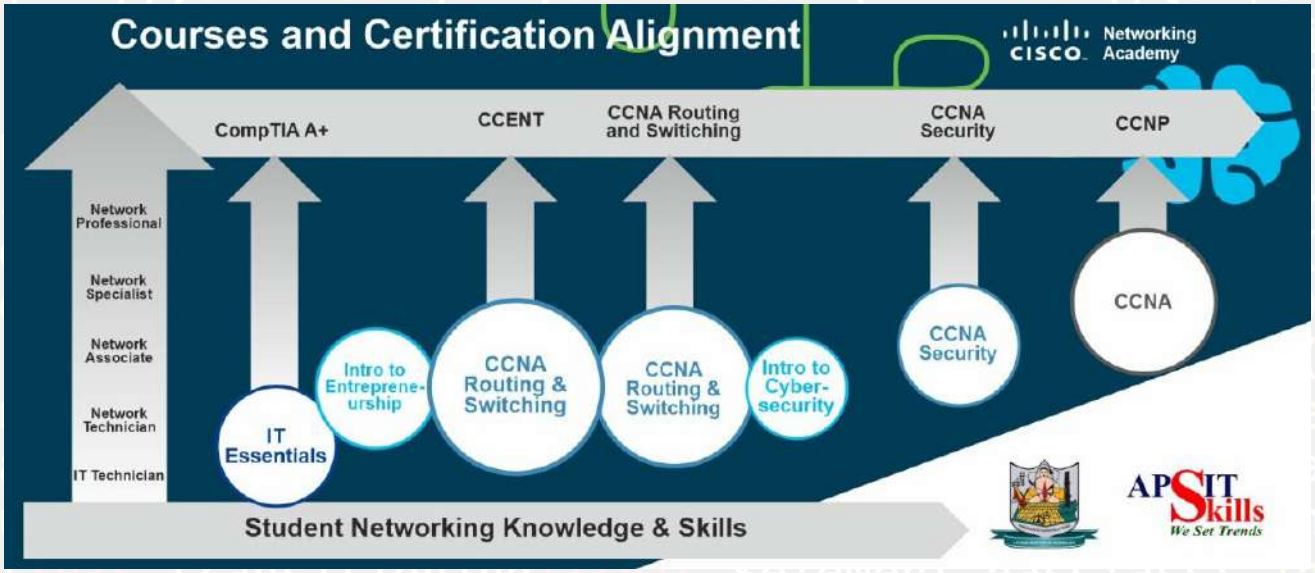
ASHNIK and APSIT have collaborated to set up an "OSEL for Emerging Technologies" in the campus to help students and faculty members enhance their skills in areas of open source technologies including Database, Docker, Elastic Stack Analytics, NGINX , Cloud and Linux Platform. This lab aims at providing knowledge of emerging open source technologies and expose students to open source softwares. A joint committee has been formed comprising of Professors, Students, representatives of APSIT and ASHNIK that will continuously discuss on content, delivery etc. The Committee will monitor and review the activities under these programs and will also mentor the participating students. While doing each program participant will have access to various open source communities for participating in their projects on their interest and to get additional study material and resources to interact with experts & participate in discussions.

REDHAT ACADEMY

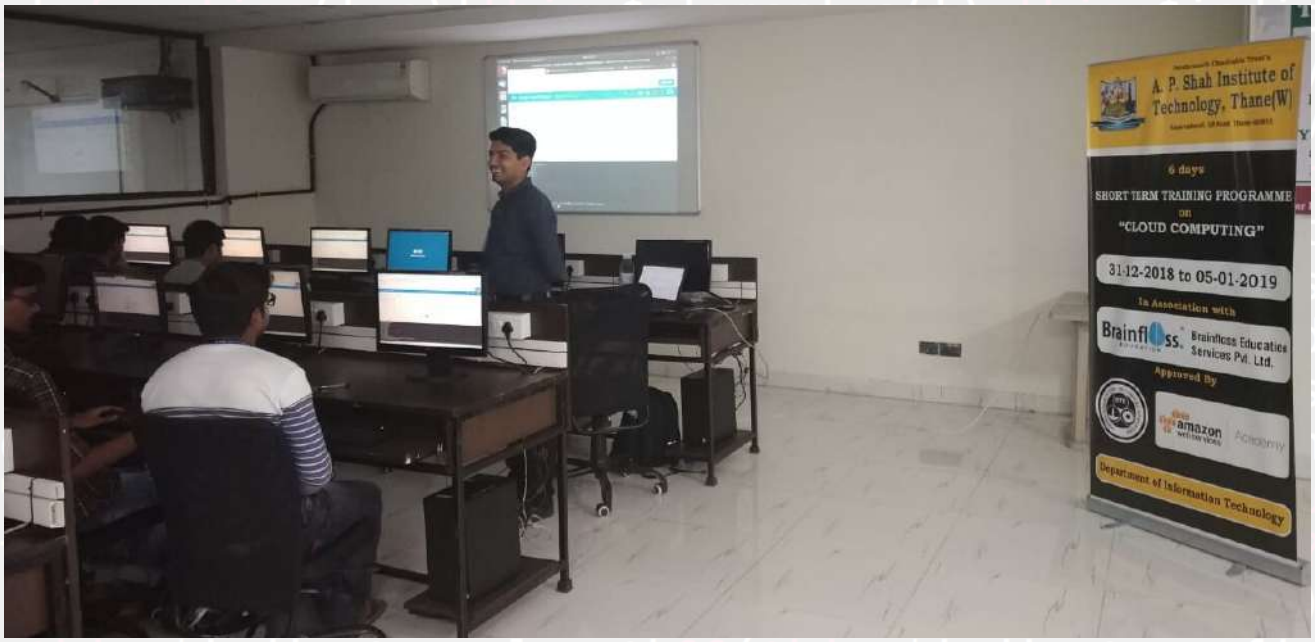
Red Academy is a collaborative effort of APSIT & Red Hat,Inc USA to impart the skills leading to global certifications in the areas of Core System Administration, Middleware Developement & Microservices.

CISCO NETWORKING ACADEMY

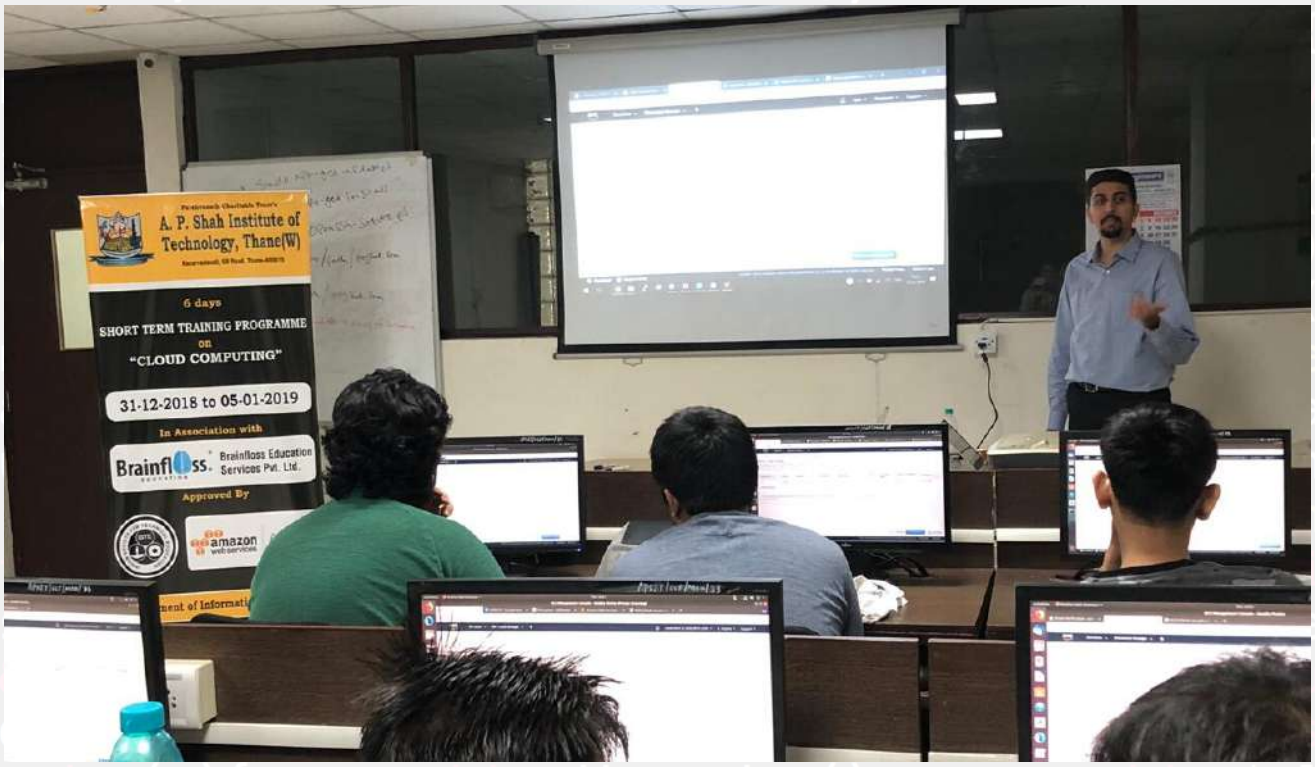
CISCO Networking Academy has been set up in collaboration with Cisco Inc. USA. Courses lead to global certifications in the areas of Cybersecurity, IOT, Routing & Switching.



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.



ACADEMIC INITIATIVES

NPTEL Achievements of A.Y. 2018-19

NPTEL™

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 a ACTIVE Local Chapter for both the sessions of AY 2018-19.

APSIT reimburse 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 in regular intervals during learning. The enrolment to 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, SE-IT

NPTEL Achievements

Student Achievements 2018-19

Shankarlal Sharma

Course
Programming in Java

Outcomes / Score
Elite+Silver / 88

Akshata Singh

Course
Joy of computing using Python

Outcomes / Score
Elite+Silver/ 79

Kavan Naik

Course
Joy of computing using Python

Outcomes / Score
Elite+Silver/ 85

Sanjana Nalawade

Course
Joy of computing using Python

Outcomes / Score
Elite+Silver/ 78

Mandar Kumbhar

Course
Joy of computing using Python

Outcomes / Score
Elite+Silver / 88

Jayesh Bhosale

Course
Joy of computing using Python

Outcomes / Score
Elite+Silver/ 76

Rahul Vast

Course
Information Security - 5 - Secure Systems Engineering

Outcomes / Score
Elite+Silver/ 81

NPTEL Achievements

NPTEL Statistics I half of AY 2018-19

S.NO	NAME	COURSE NAME	YEAR	SCORE	CERTIFICATE TYPE
1	RUSHIKA SUDHAKAR RAMANE	Cloud Computing and Distributed Systems	SE	66	Elite
2	RAHUL VAST	Artificial Intelligence: Search Methods for problem Solving	SE	44	Successfully completed
3	HARSHITA ANIL SHAH	Data Base Management Systems	SE	43	Successfully completed
4	SHREYAS CHORGE	Data Base Management Systems	SE	73	Elite
5	SANJANA VIJAY NALAWADE	Data Base Management Systems	SE	56	Successfully completed
6	SHREYA BHUTADA	Data Base Management Systems	SE	71	Elite
7	NAIK JAHNAVI RAJESH	Data Base Management Systems	SE	53	Successfully completed
8	RASHMI SHETTY	Data Base Management Systems	SE	51	Successfully completed
9	RUTVIK LATHIYA	Data Base Management Systems	SE	53	Successfully completed
10	KAVAN VASANT NAIK	Data Base Management Systems	SE	72	Elite
11	TEJAS GAUTAM KHANTED	Data Base Management Systems	SE	67	Elite
12	ANITA BANWARILAL YADAV	Data Base Management Systems	SE	61	Elite
14	MANDAR ARJUN KUMBHAR	Data Base Management Systems	SE	73	Elite
15	AKSHATA SINGH	Data Base Management Systems	SE	70	Elite
16	ABHIJIT AMBRE	Data Base Management Systems	SE	46	Successfully completed
13	NAMRATA JOSHI	Data Base Management Systems	BE	44	Successfully completed
17	SHAILESH LALSAHEB VISHWAKARMA	Cloud Computing	BE	58	Successfully completed
18	SHANKARLAL SHARMA	Cloud Computing	BE	68	Elite
19	AMISHA KARIA	Introduction to Internet of Things	BE	69	Elite
20	AISHWARYA RAJESH PANHALE	Introduction to Internet of Things	BE	70	Elite
21	ROHAN SHAH	Introduction to Internet of Things	BE	70	Elite
22	LAVINA BUDHWANI	Switching Circuits and Logic Design	BE	45	Successfully completed

NPTEL Statistics II half of AY 2018-19

1	ABHISHEK POTE	SE	Computer Organization and Architecture:A Pedagogical Aspect	65	Elite
2	SOUNDARYA NEVREKAR	SE	Computer Organization and Architecture:A Pedagogical Aspect	63	Elite
3	KAVAN VASANT NAIK	SE	Computer Organization and Architecture:A Pedagogical Aspect	62	Elite
4	MANDAR ARJUN KUMBHAR	SE	Computer Organization and Architecture:A Pedagogical Aspect	65	Elite
5	TEJAS GAUTAM KHANTED	SE	Computer Organization and Architecture:A Pedagogical Aspect	68	Elite
6	RUTVIK LATHIYA	SE	Computer Organization and Architecture:A Pedagogical Aspect	62	Elite
7	SHAILESH LALSAHEB VISHWAKARMA	BE	Programming in Java	60	Elite
8	SHANKARLAL SHARMA	BE	Programming in Java	88	Elite+Silv
9	TEJAS GAUTAM KHANTED	SE	Joy of computing using Python	70	Elite
10	RUTVIK LATHIYA	SE	Joy of computing using Python	70	Elite
11	MAYURI SUNIL DESHPANDE	SE	Joy of computing using Python	61	Elite
12	SHREYA BHUTADA	SE	Joy of computing using Python	69	Elite
13	TEJAS RAIBAGI	SE	Joy of computing using Python	65	Elite
14	AKSHATA SINGH	SE	Joy of computing using Python	79	Elite+Silv
15	UTKARSHA DATTATRAYA POTDUKHE	SE	Joy of computing using Python	69	Elite
16	ANITA BANWARLAL YADAV	SE	Joy of computing using Python	74	Elite
17	JAIN SAKSHI NARESH KUMAR	SE	Joy of computing using Python	62	Elite
18	KAVAN VASANT NAIK	SE	Joy of computing using Python	85	Elite+Silv
19	SANJANA VIJAY NALAWADE	SE	Joy of computing using Python	78	Elite+Silv
20	SHRYEAS CHORGE	SE	Joy of computing using Python	63	Elite
21	MANDAR ARJUN KUMBHAR	SE	Joy of computing using Python	88	Elite+Silv
22	JAYESH NANDKISHOR BHOSALE	SE	Joy of computing using Python	76	Elite+Silv
23	UTKARSH MANISH NAIK	TE	Data Mining	62	Elite
24	RAHUL VAST	SE	Information Security-5- Secure Systems Engineering	81	Elite+Silv

NPTEL Achievements

Faculty Achievements I Half of AY 2018-19

Prof. Poonam Dhawale

Course

Introduction to Internet of Things

Outcomes / Score

Elite+Silver / 86

Prof. Anagha Aher

Course

Joy of computing using Python

Outcomes / Score

Elite+Silver/ 85

Prof. Nahid Shaikh

Course

Programming, Data Structures and Algorithms using Python

Outcomes / Score

Elite+Silver/ 67

Prof. Apeksha Mohite

Course

Data Base Management Systems

Outcomes / Score

Elite/ 65

Prof. Kiran Deshpande

Course
Computer Networks and Internet Protocol

Outcomes / Score
Elite / 60

Prof. Vishal Badgujar

Course
Cloud Computing

Outcomes / Score
Elite/ 60

NPTEL Achievements

Faculty Achievements II Half of AY 2018-19

Prof. Nahid Shaikh

Course	Outcomes / Score
Joy of computing using Python	Elite+Gold / 93

Prof. Anagha Aher

Course	Outcomes / Score
Joy of computing using Python	Elite+Silver/ 89

Prof. Poonam Dhawale

Course	Outcomes / Score
Introduction to Soft Computing	Elite+Silver/ 83

Prof. Kiran Deshpande

Course	Outcomes / Score
Introduction to Automata, Languages and Computation	Elite/ 65

Prof. Rujata Chaudhari

Course
Cryptography and Network Security

Outcomes / Score
Elite / 64

Prof. Vishal Badgujar

Course
Big Data Computing

Outcomes / Score
Elite/ 64

Prof. Ganesh Gourshete

Course
Database Management System

Outcomes / Score
Elite/ 63

Spoken Tutorial

APSIT is a recognized Super Resource Center of IIT Bombay since 2018 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.

January to June 2019

Year	Course Opted	No of Student Appeared	No of Student Cleared the exam	No of Student scored above 60%
TE IT 2016	LaTex	48	34	3
TE IT 2016	Arduino	17	17	16
SE IT 2017	Linux	57	55	34
SE IT 2017	Python	40	28	12

June to December 2018

Year	Course Opted	No of Student Appeared	No of Student Cleared the exam	No of Student scored above 60%
SE IT 2017	JAVA	20	18	8
TE IT 2016	Linux	12	12	5
TE IT 2016	Python	12	8	4
BE IT 2015	LaTeX	34	13	1

Spoken Tutorial

Java

Toppers:

1. Varun Godambe	80%
2. Rahul Vast	77.50%
3. Sujoy Dev	77.50%

No. of students completed Certifications 18

Spoken Tutorial

Python

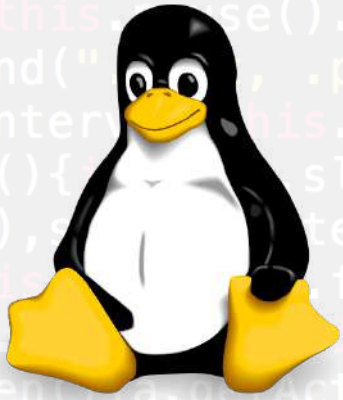
Toppers:

1. Sahil Naik	85%
2. Sujoy Dev	80%
3. Yash Gangani	45%

No. of students completed Certifications: 36

Spoken Tutorial

Linux



Toppers:

1. Rutwik Gaikwad	80%
2. Tejas Raibagi	80%
3. Amit Kharwal	76.70%

No. of students completed Certifications: 67

Spoken Tutorial

LaTeX

Toppers:

1. Yogendra Kokamkar	71.1%
2. Akash Nair	66.7%
3. Debashish Choudhury	57.8%

No. of students completed Certifications: 47

Spoken Tutorial

Arduino

Toppers:

1. Varsha Naik	87.50%
2. Debashish Choudhury	85%
3. Sonam Chavan	85%

No. of students completed Certifications: 17

XPRESSION CLUB

Personality Developmental Activity

"Speak clearly, if you speak at all,
Carve every word before you let it fall"
-Oliver Wendell Holmes

What is it that makes you stand out amongst a group of people and influence everyone? Some of you might say that it's your clothing style, some might believe it to be their strategies. People seldom acknowledge the fact that communicating efficiently with confidence can have a lasting impact on others. But, not all of us are born with exceptional communication skills; with practice and various interactions we develop them over time. At the APSIT Xpression Club, we aim to inspire everyone to learn to express clearly and confidently. Better communication leads to better relationships, professional or personal, and a better personality. Several exciting events and seminars have been organized throughout the semester, where all you have to do is talk.

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

"The Gate training and 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 on their knowledge of subjects and widen their conceptual understanding."

-By Akash Nair, TE-IT

ARS

Student Empowerment Scheme

Attendance Reward Scheme

In Academic Year 2018-19 , 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 .

9 Students have taken benefit of ARS in First Half of AY 2018--19.
32 Students have taken benefit of ARS in Second Half of AY 2018--19.

Student Testimony

This is a great initiative of our institute. We get 100 coupons of Rs 10 each to use in the canteen. Now we get AMAZING PERKS for JUST being : REGULARLY PRESENT IN COLLEGE. This is really a motivation to attend lectures.

By-Rahul Vast, SE-IT

ARS

Student Empowerment Scheme

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.

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 a contagious, creative energy among students and teachers.

In First half of A.Y. 2018-19, PBL was conducted on C & Python Programming Language and in the Second half, PBL was conducted for Java and Full Stack Web Development.

Student Testimony

"The Project Based Learning workshop is an intensive session which lets us have a hands on experience while learning. It is quite different from the classroom environment and encouraged us to work together in teams. Would definitely recommend to anyone looking to enhance their skills."

-By Rutwik Gaikwad, TE-IT

BUSINESS ANALYTICS

Short Term Training Program

To Discover and enhance opportunities related to current trends in Business Analytics APSIT'S Department of Computer Engineering & Information Technology successfully conducted 6 days Short Term Training Program on Business Analytics from 17 June 2019 to 22 June 2019. STTP on Business Analytics provided platform to students & faculties to Study and understand various aspects of Data Science as well as to Implement and solve Practical data science problems by usingvarious Open source Software and tools.

CLOUD COMPUTING

Short Term Training Program

Department of Information Technology conducted ISTE approved STTP on "Cloud Computing" from 31/12/2018 to 05/01/2019.The objective of this program was to introduce the participants to the insight of Cloud Computing along with its applications. Cloud Computing is expanding rapidly with ever-new developments and applications.. This STTP has provided a platform for Students & Faculties to explore their knowledge in the field of recent cloud computing trends like OpenStack Cloud Cluster & AWS. This intensive workshop was conducted by domain experts from the renowned Industry Experts from Capgemini & Brainfloss. Mr. Rohan Shah Cloud Architect from Capgemini and Mr.Pranav Phadke AWS cloud Architect from Brainlofloss Solutions were the resource persons .Total 50 participants have attended this training program.

Testimony

Department believes in progressive approach. To help students in coping 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

MACHINE LEARNING

Short Term Training Program

STTP on "Machine Learning – Recent Trends in Computers" was scheduled from 31/12/2018 to 05/01/2019 (6 Days) in lab 317. Mr. Shaikh Ali Mustafa from Google Crowdsourse Global Community conducted the training program.

Faculty members and students from AICTE approved degree colleges belonging to Department of Computer Engineering and Information Technology participated in the course. 35 students and 3 faculties from Computer department, 30 students and 5 faculties from IT department and 3 students from Electronics and telecommunication department attended the session. On Day 6 Quiz was conducted on the topics covered in 6 days. The top 5 scorers were awarded. Certificates were distributed to all the students who have successfully completed the session.

CORE & ADVANCE JAVA

Short Term Training Program

STTP on "Advance JAVA"was scheduled from 26/06/2018 to 30/06/2018 (5 Days)in lab 312. Mr.Ashish Khot from APTECH Pvt.Ltd. conducted the training program. Studetns from Depratment of Computer Engineering and Information Technology participated in the course. 19 students from computer department and 17 students from IT department attended the session.

Student Testimony

As an IT student workshops & STTPs arranged by Department provided me with a wide arena of the field and thus allowed me learn something new at every semester. What amazes me is the plethora of technical activities that the Department offers without putting any extra financial burden & hence compelling individuals to explore and pursue extra talents while inculcating the spirit to stand out amongst the talented hardworking students. Another feather in the cap is the IT infrastructure of the Department which provides conducive environment to conduct such workshops & STTPs.

-

By-Ajinkya Huddar, TE IT

REDHAT ADMINISTRATION

Short Term Training Program

APSIT's Department of Computer Engineering & Information Technology conducted Short Term Training Program on Core RED HAT System administration under RED HAT Academy Program from 18 June 2018 to 23 June 2018. This STTP provided students & Faculties with Linux administration "survival skills" by focusing on core administration tasks. Contents covered in this STTP also provided a foundation for students planning to enable themselves in Linux system administration by introducing key command-line concepts and enterprise-level tools. STTP further went deeper into core Linux system administration skills, including storage configuration, security feature management, task control, and installation and deployment of Red Hat® Enterprise Linux.

ELK STACK

Short Term Training Program

Team Ashnik & APSIT's Department of Computer Engineering & Information Technology had organised & completed 1st ELK workshop at A.P. Shah Institute of Technology's "OpenSource Experimental Lab for Emerging Technologies" built in collaboration with Ashnik from from 28 June 2018 to 30 June 2018. 30 bright minds from the IT & Computer Department attended the workshop. Mr. Ajit Ghadge Senior Consultant & SME in Elastic Stack was the Resource Person.

BUILDING REAL WORLD NATIVE CROSS-PLATFORM APPLICATIONS

Short Term Training Program

APSIT's Department of Information Technology conducted Short Term Training Program on Building real world Native Cross-platform Applications from 18 June 2018 to 22 June 2018. STTP was aimed at providing students' knowledge of the fundamentals of Xamarin Forms, its architecture and build real world native application for Android, iOS and windows phone. During this STTP BE Students of Computer Engineering & Information Technology enabled themselves for using
Xamarin Forms API to build native mobile applications for iOS, Android and Windows completely in C#. Mr. Vinayak Narkar, Technical specialist @ ISG eSolutions Pvt. Ltd. was the resource Person.

HANDS ON SESSION:ANGULAR JS

Training Session By the Students For the Students

Information Technology Student Association, the department students association promotes the various events and activities for development of students. Inclined to the ideology of "For the students – By the students", ITSA arranged a handson session for the BE IT students about usage and importance of using Angular JS. The session of conducted by team of students from BE IT, Harsh Kansara, Durgesh Dubey, Ayush Shrivastava on 14/02/19 with a motive to make students understand how Angular JS can be used. The team covered the basics of Javascript, types of javascript framework, basics of typescript.

They also covered the installation of Angular Framework Installation and demonstration and also focused on information about Angular JS and how it can be used for creating applications.

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 Department of Information Technology 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 collaborative learning environment and help boost students confidence. In inclination to the same, ITSA arranged a handson session for the TE IT students about usage and importance of using GitHub. The session of conducted by BE IT student, Saif Inamdar on 30/01/19 with a motive to make students understand how GitHub can be used and it's advantages overall. Saif, helped students create their GitHub accounts and further explained them the process of creating repository which can be useful for storing their project related codes, datasets, relevant information and reports. Approximately 45+ students were benefitted by this handson 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-Hiral Thadeshwar, TE IT

TECHNO SESSION ON DOCKERS

APSIT's Department of Computer Engineering & Information Technology brings Techno Session on Docker at Open Source Experimental Lab in Collaboration with Ashnik Technology Solutions,Singapore for APSIT Core Open Source Team. Mr. Jagganath Nikam, DevOps Architect from SIGMOID had introduced students to basic deployment & use of Docker. Students were given few mile stones which they are supposed to achieve before next Session which would be Monitored & revived by Team of Professors at APSIT.

EVENTS

INDUSTRIAL VISIT

ASHNIK

To keep the students aware about the trending evolutions in open source technologies Department of Information Technology and Computer Engineering of APSIT arranged an industrial visit to Ashnik Technologies Pvt. Ltd., Mumbai as a part of Open Source Experimental Lab initiative on March 23rd 2019. Around 18 students from both the departments participated in this technical visit. Ashnik is a leading enterprise open source solutions and consulting company in Southeast Asia and India.Mr. Sandeep Khuperkar, CTO and Director at Ashnik enlightened the students about various open source technology developments. Mr. Sandeep shared his versatile experience of working with Redhat Linux and briefed about enterprise designing using open source technologies such as NGINX, Docker, Kafka, ElasticStack, PostgreSQL, MongoDB, Pentaho, Couchbase etc. He explained vulnerabilities of various technologies and solutions for the same. The overall session was informative about how competitive market evolves and the impact of open source technology in development sector. Mr. Sandeep motivated students towards learning and using various open source platforms available.

INDUSTRIAL VISIT

Tech Mahindra

Department of Information Technology of APSIT organized an Industrial Visit to Tech Mahindra on April 4th 2019 in collaboration with CII. Collectively 50 students from both departments and 2 faculty members visited the industry.The session was lead by Ms. Madhu Singh, Assistant Manager Corporate Training, Tech Mahindra with brief introduction of Tech Mahindra. There were four sessions arranged.The very first session was headed by Mr. Nikil Malhotra , head of the Makers Lab. He briefed about the initiative and mission of forming the Makers Lab. The Makers Lab was formed to focus on the branches of AI and thereby build next level of AIs. Apart from that their research also goes through well-known technologies like Machine Learning, Block Chain, IOT, Robots, Quantum Computing and many frameworks as well. The second session was conducted on Project Management and Delivery Management by Project Manager Ms. Madhu, where she explained various stages of project management and importance of team management through various interesting real time examples. Following it the next session was conducted by Ms. Sanjana and Ms. Kirti who focused on importance of communication skills, behaviour, attitude expected from person during interview and throughout their professional career. The last session conducted by Mr. Rakesh focused on non-technical awareness expected from individuals.

Further students visited different sections of Tech Mahindra where they interacted with the development team of Tech Mahindra. The team explained various activities that takes place in Tech Mahindra and its benefit on team and individuals. Through this Industrial Visit students were made aware about how things actually work at professional level, the lightning fast advances happening every single second and how student should prepare for the challenges being faced by IT industry.

EXPERT TALKS

First Step in Enterprise World

To create awareness amongst students about the latest trends and technologies and its usefulness, Department of Information Technology & Computer Engineering organized an expert talk ," First step in Enterprise World " on 12 th March 2019. Mr. Sandeep Khuperkar, the CTO, Director at Ashnik was the guest of honour. The talk aimed to provide knowledge and information to students regarding upcoming and trending technologies, it importance and applications. The speaker, Mr. Sandeep Khuperkar, was informative about how the technological advancements play a vital role in overall development. He motivated students to stay updated with recent advancements and to look forward for careers in various developing open source technologies. Mr. Khuperkar, with narration of few market trending examples highlighted how students can successfully build and opt of job opportunities in open source platforms. Mr. Khuperkar conducted an interactive activity which involved participation of students in groups, to share their knowledge and ideas about the latest technical developments known to them.

SMART CITY IDEATHON

National Level Competition

Smart City Ideathon was a national level competiton held at "A P SHAH INSTITUTE OF TECHNOLOGY", Thane with the vision to help students explore their creative minds focusing on real time problems.This event was presented by Lakshya held on "29th March 2019", in association with Directorate of Technical Education, Indian Society for Technical Education, Thane Smart City, CII Education Excellence Forum and Enroot Mumbai. The initiative not only helped the students learn the skills of working as a team, presenting themselves but also gave them the opportunity to showcase what a "smart city" really meant to them. It was a proud moment for APSIT having amazing response with over "127 teams" from all around the country participating in the event.Students had the option of picking one of any four domains, on which they then went on and brainstormed themselves along with their colleagues. Domains included " Public Health & Security, Education & Employment, Mobility, Environment Conservation".There were a few ideas that really intrigued the judges as well as the crowd that stood out and won them awards.

Student Testimony

"It was a great opportunity. The ideas that were brought up were simply astonishing. The mentors were great and the event was totally awesome."

-By Prasad Jadhav,SE-IT

HACKSCRIPT 1.0

Hackathon

Department of Computer Engineering & Information Technology had organised first intercollegiate Hackfest named Hackscript1.0 on 16 & 17 March 2019. This Event was open for all Technical Institutes of Mumbai University. 30 + aspiring Teams from different Institutes Participated in this event. Brainstorming Problem Statement was given by ASHNIK Technology Solutions,Mumbai. Teams of APSIT grabbed the First prize & Second Prize was shared between Team of KJ Somaya, Mumbai & Team of Atharava College of Engineering, Mumbai.

Testimony

It was wonderful Hackathon arranged by APSIT. It was an amazing site to see various engineering colleges participating with full enthusiasm from and around Mumbai. ASHNIK was Title Sponsor and I was personally overwhelmed to see the dedication and different innovative perspective each participating team demonstrated.

-By Sandeep Khuperkar
CTO, Director, ASHNIK Singapore

IEEE

Local Student Chapter

Another event in the history of APSIT'S Department of Computer Engineering & Information Technology was the inauguration of "IEEE APSIT Student Branch". This inaugural event took place on the 22nd of January 2019, by the hands of 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. For the first time in APSIT, we had an international speaker to enlighten our students with his experiences and opportunities provided by IEEE for the students and the faculties as well. A huge crowd witnessed this grand occasion.

EXALT

Technical Meet

EXALT 2019 the annual technical meet of APSIT was scheduled on 29,30 March 2019 was laid on the keystone to project the technical advancements and to provide a platform to innovative thinkers, students who think out of the box and has learnt something amazing in the last academic year. EXALT hosts a lot of mind bogling games for students of all departments and for technology hungry people. As a part of EXALT 2019 BE IT Project Groups have exhibited their completed projects in presence of renowned Industry Guests from Capgemini

Student Testimony

"All the engineers eagerly wait round the year for this mind-blowing event. At the different events in Exalt we enjoy as well as crack our brains to solve problems. The best technical event ever."

-By Rushika Ramane,SE-IT

ICRACCI

"International Conference on Recent Advances in Communication, Computing & Informatics" (ICRACCI) was organised by Department of Information Technology, Thane under the umbrella of International Conference on Advances in Science, Technology and Engineering (ICASTe-2019). The broader objective of ICRACCI was to provide a forum for students, faculty, industry and researchers to share their ideas, stimulate creativity, facilitate advance development, motivate and inspire emerging talents at the APSIT. The purpose of the conference was to bring together researchers from around the world who are interested to disseminate their knowledge and experience for the relevant future research scope. ICRACCI Key note address was given by Prof.Ashwin Ghumaste from IIT Bomabay.

Testimony

The purpose of the ICRACCI conference was to bring together researchers from around the world who are interested in exploring new trends in the field of technology.

- By Prof. Rujata Chaudhari

CONVOCATION



A. P. Shah Institute of Technology held its very first Convocation ceremony on 23rd February, 2019.

Students of the institute's first batch worked diligently from 2014 to 2018, keeping up with classroom discussions, workshops, seminars, examinations and project presentations throughout their 4 year degree and it was all evident in their results. The institute couldn't be more proud of each student that passed with flying colours! Many of our talents have already begun working towards their dream careers, some offering their skills to well known corporations, and others turning to entrepreneurship or going for higher studies.

The students turned professionals all gathered in the APSIT campus once again, everyone dressed according to the department colours and eagerly awaiting their hard earned degree. Thus, it was with great pride that the institute presented the graduates with their degree with heartfelt congratulations, wishing them success on their journey ahead. The memorable event was immortalised with the batch of 2018 coming together for class pictures one last time.

FAREWELL

Moving Towards A Better Future

Goodbyes are always difficult for all those involved, and everyone knows it. So why not make the bittersweet occasion a fun, unforgettable evening instead? The students of SE IT and TE IT had the same idea, and began planning to present, the class of BE IT (batch of 2018) with a thoughtful parting gift. The farewell was organised with the interests of the seniors in mind, both to thank their seniors for their much needed guidance, and also to encourage this same feeling of unity among the incoming batch of students joining APSIT's IT department.


A P Shah Institute of Technology
Welcomes
Infosys
APSIT
APS

PLACEMENTS

OUR RECRUITERS

40 Students were placed during AY 2018-19.

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 2018-2019.

-By Prof. Nahid Shaikh, TPC Incharge.

ARTICLES

Internet Marketing

Rajeshkumar Soni, TEIT

You might have heard about the term 'Internet Marketing'. Do you know what is it? How it works?

What you can achieve with it?

Let me answer this question.

So Let's Go....

Internet Marketing is like you market products or content on the internet by various marketing strategies and methods .

There are many digital marketing companies those were started in bedroom and now they spend thousands of $$$ on FbAds in just Single day imagine how big they scaled.

FYI: Tens of billions of dollars are invested every single day on the internet. According to Forbes $65 billion would be spent in the following twelve months by American corporations on online marketing alone.

There are many people live a lavish life by their major income source from Internet! I know a few people who made a Million dollars in just a single Year and that is remarkable.

Before wasting any other moment, Let me take you to some trending ways of Internet marketing like how you can make money online.

#1 Blogging

This is the most common way where people make their footprints in world of internet marketing.

This requires least or no technical skill to have a blog / Website.

Basically on this Blog people share their knowledge or content like tips & tricks, how to do stuff's, Buying Guides and not the least product reviews and many more stuff.

So how you earn, You monetise Blog by

Banner Ads; Here you place some third party adds in your blog. Basically you rent your space on blog.

Also you can sign up with Ad Networks like Adsense, who places some banner on your blog and you get paid on each click actioned on that particular banner.

If you have a good traffic of readers on your blog then you can also have paid post where you write about a particular product or services and charge for it.

There is one more method which make handsome money, which will be discussed below. Keep reading to know about it.

#2 Ecommerce

Another trending ways of earning money. Basically you all are aware of typical ecommerce model, I'm sure you are but have you ever heard about selling in US from china by operating from India.

Yeah, it is possible it is called drop shipping model.

In Dropshipping you have to simply create an ecommerce site using Shopify or WooCommerce or by any other CMS(Content Management System) Available, they just make your life super easy.

Now you have to select a product to sell on your site.

Selecting a product can be done in two ways, one by directing contacting with chinese company or by selecting from AliExpress that how simple it is.

Now you have to Promote your product through paid ads like Facebook, adsense or any other traffic source.

If your product is really unique then definitely it will perform and generate money.

I have a friend in Bangalore who made $15000+ in just 7 months and many peeps generate 7 Figure sale every year by this model.

#3 Digital Marketing

In Digital marketing you are the guy who use various Advertising ways to drive traffic to a certain website or to generate sales/lead for a particular product or service.

Let me share an example of Digital marketing, Let's say you have promote a product and want to make sales. You go to a digital marketing expert. What he does is he makes some Facebook Ads set runs them find out best converting traffic source and scale that particular ads to raise the sales.

#4 Affiliate marketing

A marketing arrangement by which an online retailer pays commission to an external website for traffic or sales generated from its referrals.

Remember i said about a method in Blogging Section, this is another method where you can have some good money. Here you write an article on you blog, lets say your article is about a Laptop and you are reviewing it. In between and at the end of the article you add a link or buy now button to an affiliate networks sales page like Amazon who are giant of affiliate marketing. So here you successfully converts reader in to customer for them and say the laptop is priced $500 and has a 10% of referral commission then you earn $50 isn't it is an easy money?

#5 Content Writing and Graphic Designing.

This is for those who want to work freelancing and make easy money from their skills. Basically in this you are given a task of writing and article by using a keyword provided in your article. another is graphic designing where you can sell logo or banner designing services etc.

You can get this work on some freelancing sites like upwork.com , fiverr.com etc

Li-Fi

Amrut Sardar, TEIT

Li-Fi is a technology for wireless communication between devices using light to transmit data and position. In its present state only LED lamps can be used for the transmission of visible light. The term was first introduced by Harald Haas during a 2011 TEDGlobal talk in Edinburgh. In technical terms, Li-Fi is a visible light communications system that is capable of transmitting data at high speeds over the visible light spectrum, ultraviolet, and infrared radiation.

In terms of its end use the technology is similar to Wi-Fi. The key technical difference is that Wi-Fi uses radio frequency to transmit data. Using light to transmit data allows Li-Fi to offer several advantages like working across higher bandwidth, working in areas susceptible to electromagnetic interference (e.g. aircraft cabins, hospitals) and offering higher transmission speeds. The technology is actively being developed by several organizations across the globe.

Pros of LiFi

1. High-Speed
2. Capacity
3. Security
4. Efficiency
5. No Interference

Cons of LiFi

Reliance on Light Sources

Limited Range

Applications of Li-fi

The Military

Traffic Lights

Underwater Communications

Augmented Reality

Firebase

Barun Roy

Firebase is a mobile and web application development platform developed by Firebase, Inc. in 2011, then acquired by Google in 2014.Firebase platform has 18 products, which are used by 1.5 million apps.

Firebase's first product was the Firebase Realtime Database, an API that synchronizes application data across iOS, Android, and Web devices, and stores it on Firebase's cloud. The product assists software developers in building real-time, collaborative applications.

FIREBASE PROS & CONS

"It's not all roses.I mean, it's mostly roses, but watch the thorns".

PROS:

- Realtime / streaming updates are pretty easy.
- Getting a whole app off the ground is fast – auth, email, versioning, hosting, monitoring, devops, uptime.
- The data structure is JSON which maps perfectly to UI JavaScript.
- Libraries across programming languages are similar and pretty good.
- Cheap/free initially.

- All you need for the backend of a small mobile app.
- While schemaless, it has some basic ability to validate data types.
- It should scale very well with certain kinds of traffic (reads and writes are not on shared objects).
- Minimal, or no, knowledge of devops/sysadmin is necessary.
- They now have decent tools to migrate your data out of it.

CONS:

CONS:

- Not a boring established technology.
    - You only get so many innovation tokens.
- Your entire backend is proprietary (BaaS), owned and run by another company. If they shut down Firebase, you have to rewrite everything on their timeline instead of moving it.
    - This happened with a nearly identical service called Parse.
    - Parse was purchased by Facebook, then shut down. (Google bought Firebase but seems to be investing in it, and its replacement).
    - Google shuts things down all the time.
- Firebase is somewhat deprecated in favor of Cloud Firestore.
- Exceptionally expensive at scale compared to REST.
- Not really possible to expose an API spec (swagger) with cloud functions.
- Proprietary – complete lock-in:
    - Migrating off means rewriting all backend tests and much backend code. This is more dangerous than "just" rewriting the code and not the tests, because the tests make sure you didn't mess something up during the migration.
    - Firebase is pretty unique in the way you interact with the APIs and real time components, making a frontend migration a massive ordeal also.
- Impossible to develop the app without an internet connection.
- Security and data validation setup is tricky, and it cannot be unit tested.

Security and data validations are strings in a JSON file.

Must run security integration tests against a deployed app.

- Having your main database public is a highly discouraged practice.
    - This may not be fully fair, but it is very easy to misconfigure things and expose data that shouldn't be.cture and maintenance

Normally databases are only listen on private interfaces or at least use IP restrictions.

- You must duplicate any business logic across all systems that interact with firebase.
    - Strong anti-pattern for architecture and maintenance
- Cloud functions are good for one-off tasks:
    - good for formatting a PDF invoice and sending it
    - good for processing a batch job
    - good for individual tasks delegated by a message bus
    - bad for a bunch of similar data update routes
    - bad for structuring and testing a large REST API
- Unit testing firebase backend functions is way more complicated than a regular REST API.
- Querying and aggregating are limited compared to SQL or popular NoSQL databases like MongoDB.
- Integration with outside APIs and maintaining good testing is not simple like a regular server
    - stripe for example: need to expose backend webhook routes, test them pretty well
- You are at the mercy of Firebase's upgrade cycle.
    - If they decide to change or break something and force you to upgrade, you do not have a choice on the timeline, if there is one.
- Optimized for realtime apps.
    - Only a downside if you don't have a realtime app.
    - Many of the realtime benefits of Firebase can be had with a plethora of popular open source technologies.

Features of Firebase:

Cloud messaging
Authentication support for Facebook, Google, and Twitter
Realtime database access
Storage and hosting features
Remote configuration service
Testing lab
Crash reporting service
Notifications service

Blockchain

Ajinkya Huddar, TEIT

A blockchain is, in the simplest of terms, a time-stamped series of immutable record of data that is managed by cluster of computers not owned by any single entity. Each of these blocks of data (i.e. block) are secured and bound to each other using cryptographic principles (i.e. chain).

So, what is so special about it and why are we saying that it has industry disrupting capabilities?

The blockchain network has no central authority — it is the very definition of a democratized system. Since it is a shared and immutable ledger, the information in it is open for anyone and everyone to see. Hence, anything that is built on the blockchain is by its very nature transparent and everyone involved is accountable for their actions.

Blockchain Explained

A blockchain carries no transaction cost. (An infrastructure cost yes, but no transaction cost.) The blockchain is a simple yet ingenious way of passing information from A to B in a fully automated and safe manner. One party to a transaction initiates the process by creating a block. This block is verified by thousands, perhaps millions of computers distributed around the net.

The verified block is added to a chain, which is stored across the net, creating not just a unique record, but a unique record with a unique history. Falsifying a single record would mean falsifying the entire chain in millions of instances. That is virtually impossible. Bitcoin uses this model for monetary transactions, but it can be deployed in many other ways.

Think of a railway company. We buy tickets on an app or the web. The credit card company takes a cut for processing the transaction. With blockchain, not only can the railway operator save on credit card processing fees, it can move the entire ticketing process to the blockchain. The two parties in the transaction are the railway company and the passenger. The ticket is a block, which will be added to a ticket blockchain. Just as a monetary transaction on blockchain is a unique, independently verifiable and unfalsifiable record (like Bitcoin), so can your ticket be. Incidentally, the final ticket blockchain is also a record of all transactions for, say, a certain train route, or even the entire train network, comprising every ticket ever sold, every journey ever taken.

But the key here is this: it's free. Not only can the blockchain transfer and store money, but it can also replace all processes and business models which rely on charging a small fee for a transaction. Or any other transaction between two parties.

Data Security

Uddhabendra Maity, TEIT

We live in an increasingly digital-driven world. It's a world where our personal data is flowing freely online. Whether it's information close to us such as our date of birth, private chats or even financial data, we find ourselves interfacing with the online world on a continuous basis. Irrespective of whether we understand how these services work around secure data on the internet, there exists a major worry over the possibility of that information and data getting hijacked for potential misuse. Some businesses use our information for targeting ads, while vandals use it for ransom. What differentiates the two is intent, and understanding the intent needs perspective. Let's talk about the most common concerns regarding Data Privacy.

1. 52 percent aren't sure how to secure connected devices and apps

It's tough to secure your data and privacy if you don't even know how to check to see if they're secure. It's not just a computer you have to worry about anymore, either. Smartphones, tablets, smartwatches, virtual assistant devices like the Amazon Echo or Google Home, connected thermostats and doorbells, robot vacuums and more are all connected to each other and to the internet. They may not all contain personal information or sensitive data, but they all provide attackers with a means of gaining access to your network—and to the other devices connected to it.

2. More than 40 percent don't immediately change default passwords

This is a no-brainer. If your device can connect to the network, there's a very high probability that it can also be logged into. That means it has a username and password—one that is set by default by the vendor and can be easily found and exploited by attackers. The first thing you should do with every device is log into the user interface and change the default password. If possible, change the default username as well. It's one more thing an attacker would have to learn or guess to gain access.

3. One third don't think they can control how companies collect personal information

I can't blame people here. It's daunting. In many cases it's difficult to figure out if a company is collecting your information or how they're using it. Many don't provide any direct method for you to manage that access, and the ones that do are often confusing. Facebook, for example, provides an almost overwhelming level of granular control over security and data privacy. The problem is that you can spend half a day going through and configuring the whole thing, but two months later Facebook will add or change a feature and you have to start all over—but might not realize it. It's important to check regularly to make sure the websites you use are keeping your data safe.

4. 33 percent of parents admit they don't know the risks well enough to explain to children

This is another one that I understand. I mean, if you don't fully understand the risks or how to avoid them yourself, how are you supposed to help your kids. It's not uncommon for kids to know more about technology and the risks online than their parents. Maybe they should teach you?Although it seems challenging, it is still necessary, though. It's called parenting. Do you give your child medication without putting in the effort to understand the risks? Would you let your child go see a movie without doing some research on the content and rating?

5. Only 37 percent use credit monitoring services. I actually question this statistic a little. There have been billions of users affected by data breaches in the past few years alone, and after almost every breach one of the default responses from the responsible vendor is to provide free credit monitoring to those affected. At the rate that data breaches occur, it seems like pretty much everyone should have free credit monitoring for life at this point.

Data Privacy Day is all well and good. But, like most things that have some sort of day of awareness or recognition, it is something you should actually be aware of and working on all year. Worrying about your data and privacy once a year when Data Privacy Day rolls around is like doing push ups once a year on the day of your annual physical review. If you aren't actively working on data privacy all year, there is really nothing you can do on Data Privacy Day to change that. I get it. You're not a techie. You are not an information security professional. You just want to connect to the internet, search for information on Google, shop on Amazon, bank electronically, and post some pictures on Instagram. That's fair. Unfortunately, it does require a consistent effort from you all year to keep privacy and data protection on your radar and stay vigilant. You can start by focusing on these top 5 concerns.

Greener Transport

Yogendra Kokamkar, TEIT

Like Marty McFly's banana-powered DeLorean shown in the movie named Mr.Fusion, a future generation of flying cars could upend the idea that all flying is bad for the climate.

Firms such as the Rolls Royce, Lilium and Vertical Aerospace have argued that flying cars could be a green mode of transport, despite the large amounts of energy they need to get off the ground.

One of the first studies into the environmental impact of such vertical take-off and landing (VTOL) vehicles suggests that their backers could be right – at least in some circumstances.

Gregory Keoleian at the University of Michigan and his colleagues found that VTOLs, if they ever take to the skies, would produce 6 per cent less emissions than an electric car over a 100-kilometre journey.

"The VTOL is particularly energy intensive during take-off and descent. The cruise phase of the flight, however, is much more efficient, and over long distances, makes fully loaded VTOLs competitive with ground-based vehicles," says Keoleian.

Flying cars would also have the advantage of being able to fly in a straight line, bypassing meandering routes.

Keeping Grounded

Don't jump into a VTOL just yet though. The difference was only very small and there areseveral big catches. Number one being that flying cars don't really exist yet – they are only at the prototype stage.

The prototypes rely on electric propulsion and can land vertically like a helicopter to act as an aerial taxi, but another issue is that the study is a bit of an apples-for-oranges comparison.

It assumed an average of 1.54 people per electric car, compared with three passengers and a driver for the flying car, working on the assumption that the latter would be a shared taxi service like UberPool – something that electric cars could also offer.

Importance of Ethics

Harsh Bhanushali, TEIT

What is ethics?

Ethics is the custom, character or the habit of a person and in the simplest word; it can be defined as a system of moral principles. According to the Britz, J. J. which come from the department of Information Science University of Pretoria, he defines ethics as the individual action either good or bad and he told that ethics in the general term which make the people come as the fully human.

Ethics among It Professional.

In this article, I had mostly focused on the importance of ethics among information technology professional. When we talk about the information technology professional, it will focus on computer professional field.

The basic need of ethics among information technology professional's is to ensure that computer technology does not get's used in the wrong way which can harm people, environment and society.

That's why information technology professional's need to be fair, loyal, honest and have ethics in their practices because this will only make them trustworthy in the organization where they work and make the organization become success. With good ethics or behavior among

IT professionals, they will be able to work comfortably without feeling tired on their job and responsible in terms of security of the data or information in the system.

Explaining ethics using examples.

Let's consider a complex situations:

You're a system administrator with broad access to enterprise systems. Your supervisor has asked you to begin archiving all of the emails and web activity logs of one of your coworkers. Typically requests of this nature are initiated through a formal communication from your campus's legal office. You feel that this request is inappropriate and possibly at odds with standard campus procedures and processes.

You raise your concerns with your supervisor, but are told that this is a sensitive matter, and details cannot be shared with you. After thinking more about the conversation you had with your supervisor, you are under the impression that you might lose your job if you persist in discussing the matter further or if you refuse to carry out the task.

What would you do?

As IT professionals, what should we do when we encounter potentially murky situations like the ones described? Sometimes existing laws or institutional policy will guide ethical behavior; sometimes they won't. What many people often do not understand is that what is legal is not always ethical.

I believe it is our responsibility as IT professionals to act in an ethical manner in the performance of our work duties.

Codes Of Ethics :

A number of resources help IT professionals searching for ethical guidance within the scope of their job duties. For example, IEEE has a code of ethics for its members; the Association of Information Technology Professionals (AITP) has a code of ethics and standards of conduct; and SANS has published an IT code of ethics. There are other examples beyond these three, and many elements in these codes could be useful to IT professionals.

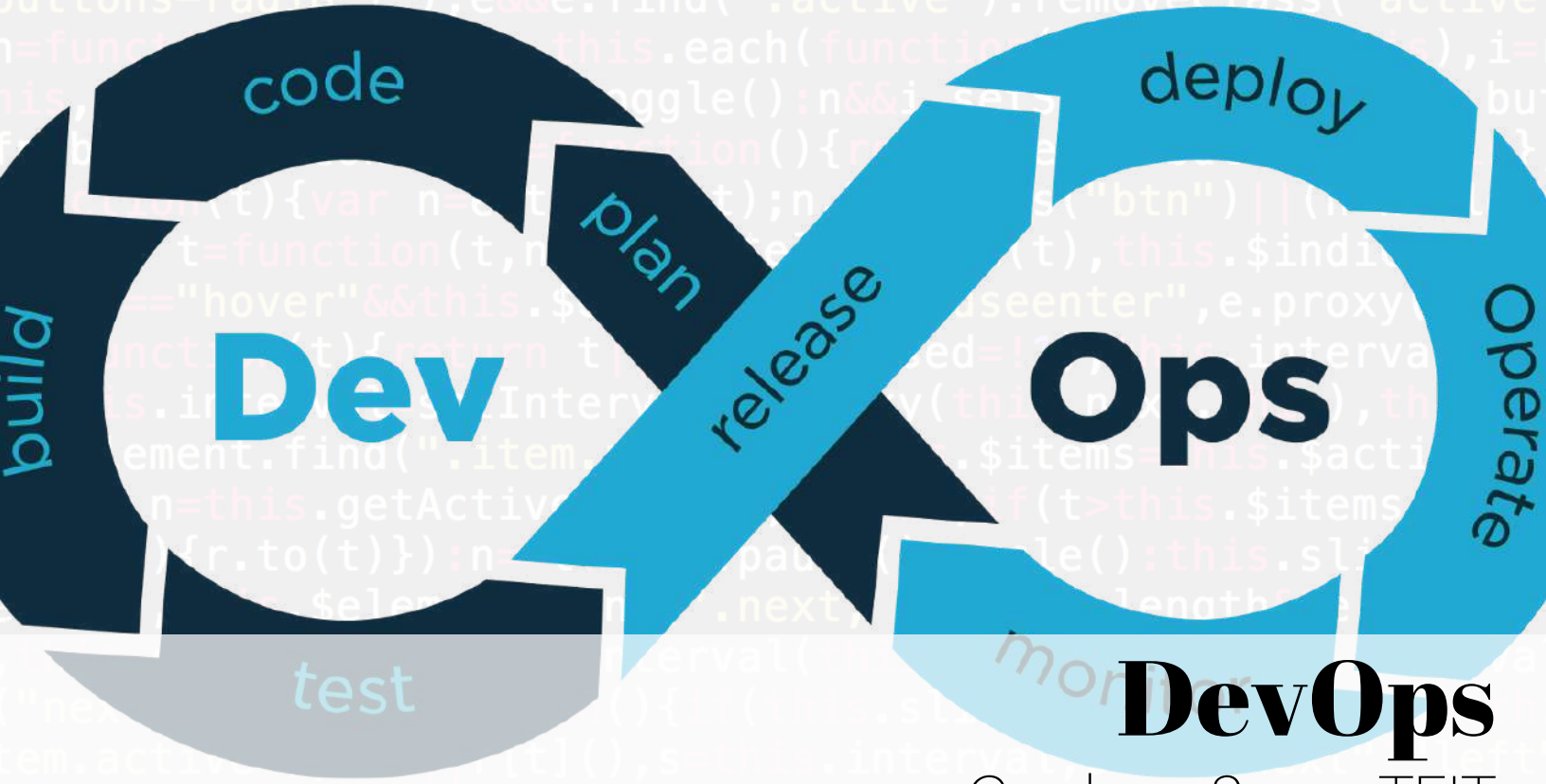
The common and the basic elements from the three codes are :

The common and the basic elements from the three codes are :

- Integrity
- Competence
- Professional responsibilities
- Work responsibilities
- Societal responsibilities
- Maintain technical competence
- Avoid injury to others, their property, reputation, or employment
- Reject bribes, kickbacks, etc.

Conclusion:

Establishing a set of professional ethics which can help you navigate the complex interactions and relationships encountered in the workplace.



DevOps

Greshma Sapra, TEIT

Devops describes a culture and set of processes that bring development and operations teams together to complete software development. It allows organizations to create and improve products at a faster pace than they can with traditional software development approaches.

Importance of Devops :

1. Shorter Development Cycles, Faster Innovation :

When development and operations teams are in separate silos, it's usually difficult to tell if an application is ready for operations. When development teams simply turn over an application, the operations' cycle times are extended needlessly.

With a combined development and operations team, applications are ready for use much more quickly. This is important, since companies succeed based on their ability to innovate faster than their competitors do. In fact, Kevin Murphy from Red Hat estimates that shorter development cycles translate to bringing an application to market 60 percent faster than with traditional approaches.

2. Reduced Deployment Failures, Rollbacks, and Time to Recover :

Part of the reason teams experience deployment failures is due to programming defects.

The shorter development cycles with DevOps promote more frequent code releases. This, in turn, makes it easier to spot code defects. Therefore, teams can reduce the number of deployment failures using agile programming principles that call for collaboration and modular programming. Rollbacks are similarly easier to manage because, when necessary, only some modules are affected.Time to recover is an important issue, because some failure has to be expected. But recovery is much faster when the development and operations teams have been working together, exchanging ideas and accounting for both teams' challenges during development.

3. Improved Communication and Collaboration

Devops improves the software development culture. Combined teams are happier and more productive. The culture becomes focused on performance rather than individual goals. When the teams trust each other, they can experiment and innovate more effectively. The teams can focus on getting the product to market or into production, and their KPIs should be structured accordingly.

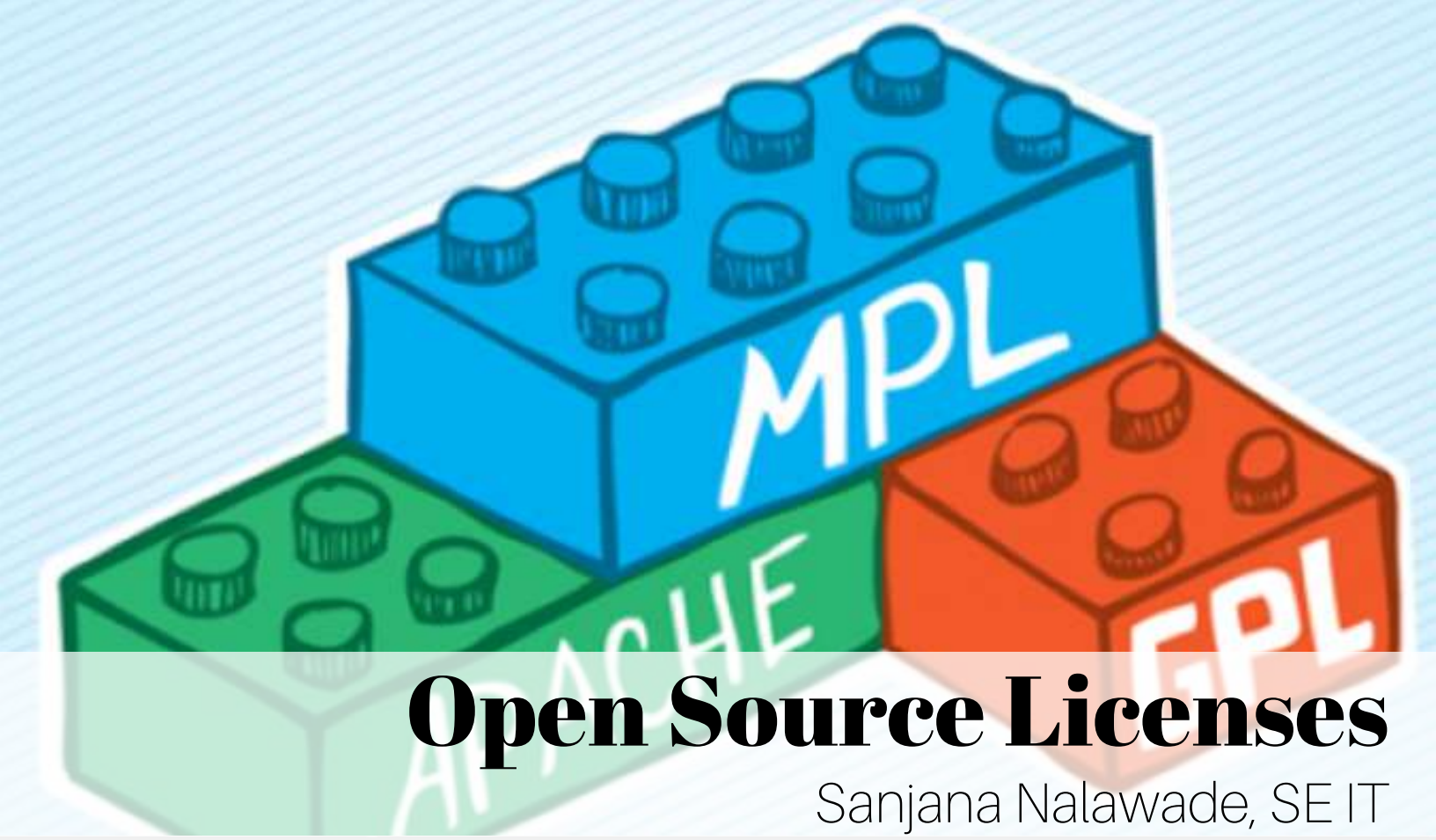
It's no longer a matter of "turning over" the application to operations and waiting to see what happens. Operations doesn't need to wait for a different team to troubleshoot and fix a problem. The process becomes increasingly seamless as all individuals work toward a common goal.

4. Increased Efficiencies :

Increased efficiency helps to speed the development process and make it less prone to error. There are ways to automate DevOps tasks. Continuous integration servers automate the process of testing code, reducing the amount of manual work required. This means that software engineers can focus on completing tasks that can't be automated. Acceleration tools are another opportunity for increasing efficiency.

5. Reduced Costs and IT Headcount :

All of the Devops benefits translate to reduced overall costs and IT headcount requirements. According to Kevin Murphy from Red Hat, DevOps development teams require 35 percent less IT staff and 30 percent lower IT costs.



Open Source Licenses

Sanjana Nalawade, SE IT

What comes to you mind when you hear the world 'Open Source'? Most of you would say 'Free'. Indeed this is true to a large extent but not without its terms and conditions. This is where Open Source licenses come into the picture. At college level, you might not be concerned with the licenses of any software or service as long as it is open source. But these licenses matter a lot when you deploy your own software or service developed using some open source technologies. Here are some open source licenses that you should be aware about.

1)GPL:

The GNU General Public License (GPL) is a free and copyleft license, primarily used for software. GPL allows users to change and share all versions of a program for free. But there is a catch. Any software that is written based on any GPL component must be released as open source. The result is that any software that uses any GPL open source component (regardless of its percentage in the entire code) is required to release its full source code and all of the rights to modify and distribute the entire code. Hence, using software with GPL licenses is not recommended if you plan to commercialize your software.

Softwares licensed under GPL : Gedit, MySQL, Wordpress.

2)BSD:

The Berkeley Source Distribution (BSD) license is free and more permissive than GPL. BSD has minimal restrictions on use and distribution of software covered under its license. But it is mandatory to include the credits for the person/organization who has developed the part of the code you included in your software. Also, you cannot use the name of the organization or contributors (whose code was included) to promote your software.

Softwares licensed under BSD: React, Django, OpenCV.

3)MIT:

Massachusetts Institute of Technology (MIT) license is the most popular and widely used open source license. The MIT License grants the software end user rights such as copying, modifying, merging, distributing, etc. It is notable for what it does not contain, such as clauses for advertising and prohibition of the use of the copyright owner's name for promotional uses. MIT licenses don't explicitly include a patent license grant. This means anyone who copies, uses, or distributes the software might become liable for patent infringement if the creator or contributor patented certain components.

Softwares licensed under MIT: Laravel, NodeJS, jQuery.

4)Apache 2.0:

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Quantum Computing

Debashish Choudhury, TEIT

Origin Of Cloud Computing:

In 1980,U.S scientist,Paul Benioff, was the first to propose a computer which operated under quantum-mechanical principles.His idea of quantum computer was based on Alan Turing's famous paper tape computer which was described in his 1936 paper.

Quantum computing is a new and exciting field at the intersection of mathematics, computer science and physics. It concerns a utilization of quantum mechanics to improve the efficiency of computation. Quantum computing promises to solve problems which are intractable on digital computers. Highly parallel quantum algorithms can decrease the computation time for some problem by many orders of magnitude.Our presentation demands neither advanced mathematics nor advanced physics. With quantum computing we can harness the super powers superposition and entanglement to solve complex problems that our classical computer is not able to achieve. Thus a quantum computer uses the quantum phenomena of subatomic particles to compute complex mathematical problems.

A quantum computer uses qubits to supply information and communicate through the system.Its encoded with quantum information in both states of 0 and 1 instead of classical bits which can only be 0 or 1.This means a qubit can be in multiple places at once due to superposition. Together both properties of superposition and entanglement will enable qubits to compute huge amount of data simultaneously and solve complex problems.

Idea Behind Quantum Computing:

Quantum computing focuses on the principle of quantum theory, which deals with modern physics that explains the behaviour of matter and energy of an atomic and subatomic level.

Quantum computers are incredibly powerful machines that take a new approach to processing information. Classical Computing requires that the data be encoded into binary digits (bits), ie. In terms of 1 and 0. Quantum computers, on the other hand, are based on qubits, which operate according to two key principles of quantum physics: superposition and entanglement which enable them to represent 1 and 0 at the same time. Quantum computers operate on completely different principles to existing computers, which makes them really well suited to solving particular mathematical problems, like finding very large prime numbers.

Key Ingredients Of Quantum Computing:

- Superposition: Quantum superposition is a fundamental principle of quantum mechanics.
    - It states that, much like waves in classical physics, any two (or more) quantum states can be added together ("superposed") and the result will be another valid quantum state.
    - Conversely, that every quantum state can be represented as a sum of two or more distinct states.

Entanglement: Entanglement Particles (such as photons, electrons, or qubits) that have interacted at some point retain a type of connection and can be entangled with each other in pairs, in a process known as correlation . Knowing the spin state of one entangled particle - up or down - allows one to know that the spin of its mate is in the opposite direction.

What Can A Quantum Computer Do Better:

Quantum computers operate on completely different principles to existing computers, which makes them really well suited to solving particular mathematical problems, like finding very large prime numbers. Since prime numbers are so important in cryptography, it's likely that quantum computers would quickly be able to crack many of the systems that keep our online information secure.

Because of these risks, researchers are already trying to develop technology that is resistant to quantum hacking, and on the flipside of that, it's possible that quantum-based cryptographic systems would be much more secure than their conventional analogues. Researchers are also excited about the prospect of using quantum computers to model complicated chemical reactions, a task that conventional supercomputers aren't very good at all.

In July 2016, Google engineers used a quantum device to simulate a hydrogen molecule for the first time, and since then IBM has managed to model the behaviour of even more complex molecules.

Eventually, researchers hope they'll be able to use quantum simulations to design entirely new molecules for use in medicine. But the holy grail for quantum chemists is to be able to model theHaber-Bosch process – a way of artificially producing ammonia that is still relatively inefficient. Researchers are hoping that if they can use quantum mechanics to work out what's going on inside that reaction, they could discover new ways to make the process much more efficient.

Companies Involved In Quantum Computing:

- IBM: In what it calls an "industry-first initiative", IBM has launched its IBM Q as an attempt to build commercial quantum computers for business and science.
- Google (Alphabet): In 2013, Google invested in D-Wave, a company specializing in quantum computers (more on this Canadian start-up below). For its partnership with NASA (QuAIL), the U.S. space agency has upgraded to the latest D-Wave 2000Q
- Microsoft: Back in 2005, Microsoft launched its "Station Q", a research lab focused on topological quantum computing, but whose progress remained unknown for years.

Recurrent Neural Networks

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Recurrent Neural Networks (RNNs) add an interesting twist to basic neural networks. A vanilla neural network takes in a fixed size vector as input which limits its usage in situations that involve a 'series' type input with no predetermined size.RNNs are designed to take a series of input with no predetermined limit on size. One could ask what's the big deal, I can call a regular NN repeatedly too?Sure can, but the 'series' part of the input means something. A single input item from the series is related to others and likely has an influence on its neighbors. Otherwise it's just "many" inputs, not a "series" input (duh!).So we need something that captures this relationship across inputs meaningfully.

Recurrent Neural Network remembers the past and it's decisions are influenced by what it has learnt from the past. Note: Basic feed forward networks "remember" things too, but they remember things they learnt during training. For example, an image classifier learns what a "1" looks like during training and then uses that knowledge to classify things in production.

While RNNs learn similarly while training, in addition, they remember things learned from prior input(s) while generating output(s). It's part of the network. RNNs can take one or more input vectors and produce one or more output vectors and the output(s) are influenced not just by weights applied on inputs like a regular NN, but also by a "hidden" state vector representing the context based on prior input(s)/output(s).

So, the same input could produce a different output depending on previous inputs in the series.

In summary, in a vanilla neural network, a fixed size input vector is transformed into a fixed size output vector. Such a network becomes "recurrent" when you repeatedly apply the transformation to a series of given input and produce a series of output vectors. There is no pre-set limitation to the size of the vector. And, in addition to generating the output which is a function of the input and hidden state, we update the hidden sate itself based on the input and use it in processing the next input.

Deep RNNs

While it's good that the introduction of hidden state enabled us to effectively identify the relationship between the inputs, is there a way we can make a RNN "deep" and gain the multi level abstractions and representations we gain through "depth" in a typical neural network?

Here are four possible ways to add depth. (1) Perhaps the most obvious of all, is to add hidden states, one on top of another, feeding the output of one to the next. (2) We can also add additional nonlinear hidden layers between input to hidden state (3) We can increase depth in the hidden to hidden transition (4) We can increase depth in the hidden to output transition. This paper by Pascanu et al., explores this in detail and in general established that deep RNNs perform better than shallow RNNs.

Bidirectional RNNs

Sometimes it's not just about learning from the past to predict the future, but we also need to look into the future to fix the past. In speech recognition and handwriting recognition tasks, where there could be considerable ambiguity given just one part of the input, we often need to know what's coming next to better understand the context and detect the present.

This does introduce the obvious challenge of how much into the future we need to look into, because if we have to wait to see all inputs then the entire operation will become costly. And in cases like speech recognition, waiting till an entire sentence is spoken might make for a less compelling use case. Whereas for NLP tasks, where the inputs tend to be available, we can likely consider entire sentences all at once. Also, depending on the application, if the sensitivity to immediate and closer neighbors is higher than inputs that come further away, a variant that looks only into a limited future/past can be modeled.

LSTMs

We cannot close any post that tries to look at what RNNs and related architectures are without mentioning LSTMs. This is not a different variant of RNN architecture, it introduces changes to how we compute outputs and hidden state using the inputs.

This post provides an excellent introduction to LSTMS. In a vanilla RNN, the input and the hidden state are simply passed through a single tanh layer. LSTM (Long Short Term Memory) networks improve on this simple transformation and introduces additional gates and a cell state, such that it fundamentally addresses the problem of keeping or resetting context, across sentences and regardless of the distance between such context resets. There are variants of LSTMs including GRUs t hat utilize the gates in different manners to address the problem of long term dependencies.

What we have seen here so far are only the vanilla architecture and some additional well known variants. But knowing about RNNs and the related variants has made it more clear that the trick to designing a good architecture is to get a sense of the different architectural variations, understand what benefit each of the changes bring to the table, and apply that knowledge to the problem at hand appropriately.

Technology In Sports

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The world of sport is continually changing over the years, and the use of technology is just one of those areas that has made an impact on many sports in the modern day. See the annual sports technology awards for the latest technology ideas in the world of sport.

One criticism of the use of technology is that it can slow down the speed of the game, but on the other hand, for many people it makes watching it more enjoyable to see the correct decisions being made.

Hawk-Eye Technology

Hawk-eye is the name of a computer and camera system which traces a ball's trajectory. It is being used in international cricket and tennis, and many other sports are also looking at making use of this technology. The system is also being trialled in soccer as part of the goal line assessment. The Premier League of Football in the UK has agreed to the introduction of goal-line sensors after being given approval by football's rule-makers. The system being developed by the UK company Hawk-Eye, would give a definitive decision on whether the ball had crossed the line.

The Hawk Eye uses a camera taking 600 frames a second on the goal-line, with the information is analyzed by computer and sent to the referee's headset or a device on his wrist. In 2015, Hawkeye technology was also used by rugby officials at the 2015 Rugby World Cup, to improve decision-making by the television match official (TMO) and also assist with player safety. In this case it is enhanced video review, rather than the ball tracking technology as used in other sports.

Sport Specific

Tennis - it is now standard at the major tennis tournaments for a line review system to be in place, with players given power to review contentious line calls. It is powered by the Hawk-Eye ball tracking system.

Soccer / Football - Soccer is looking at joining the 21st century, looking at various technologies for the goal line to determine if the pass passes over the line or not. It is also uses the Hawk-Eye ball tracking system.

Basketball - the NBA uses replay vision to review 'last touch' decisions in the final two minutes of games, and also to determine whether players release the ball before the shot clock expires.

Cricket - technology in cricket has been driven by advances in the TV coverage. Things that were once extra information provided by the TV networks are now being incorporated into the decision referral system (DRS), such as hawk-eye and hot spot, and maybe even the old favorite snicko.

Aussie Rules Football - umpire review system has also been implemented in AFL, with an off field umpire in certain circumstances adjudicating on whether the ball passes over the goal line or is touched, using video evidence via multiple camera angles.

Baseball - In 2014 a challenge system was put in place for the MLB to use replays to challenge certain umpiring decisions.

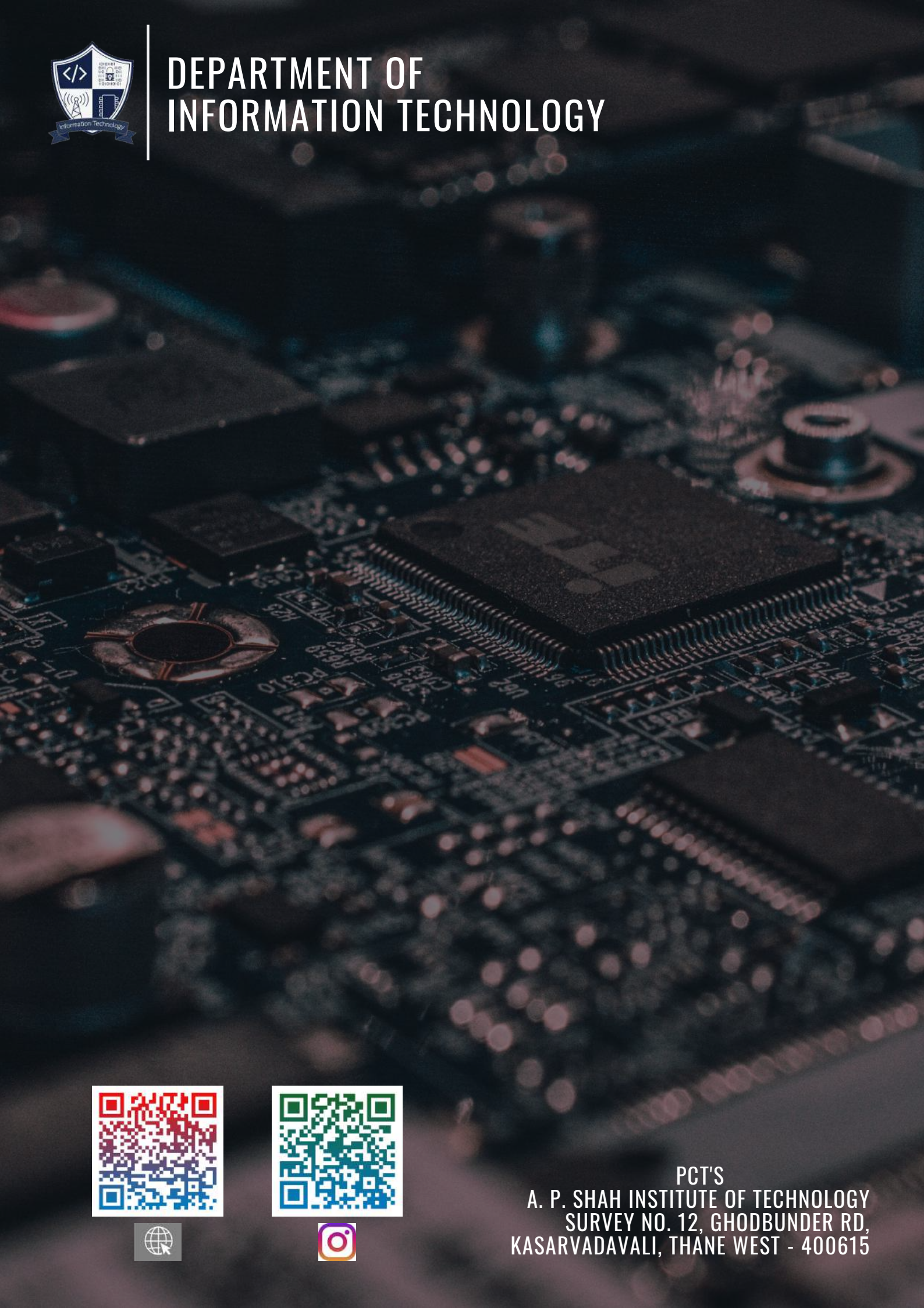
Computer Software

There are numerous software packages that are designed for fitness and nutrition professionals to organize data and produce reports, ideal for visitors to this site. Here are a couple of packages that come recommended by Topend Sports.

Team Beep Test — the most versatile and useful software for conducting and recording the results of the bleep / beep test, with results recorded directly onto your computer.

BodyByte — a universal standalone computer software program specially developed to comprehensively organize and manage all the information associated with nutrition, training and fitness.

DEPARTMENT OF INFORMATION TECHNOLOGY



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