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## DEPARTMENT OF COMPUTER ENGINEERING



Parshvanath Charitable Trust's A. P. SHAH INSTITUTE OF TECHNOLOGY, THANE (Affiliated to Mumbai University, Approved by AICTE, DTE and Govt of Maharashtra)



# From the Principal's Desk

Right now, we see ourselves, collectively facing this pandemic, a situation for which we had no experience and little preparation. And, at this time, when the whole world is battling against it, the Department of Computer Engineering has added another feather to its cap; by releasing the E-magazine, which reflects all the departmental activities of the year and also provides our students a platform to bring out their creative thoughts and expression.

We also extend our heartfelt gratitude to all the parents for their continued support to the institution and its endeavors. Be assured that the management, teaching and non-teaching faculty of the school is working towards making this lockdown a meaningful and fruitful one. We will not leave any stone unturned in educating our APSIT family and will take all possible measures to assist our students, faculties, parents and guardians alike. My sincere advice to the students is to not lose hope and concentrate on the silver lining amidst the thickest and darkest cloud at present times.

We have accomplished quite a bit since 2014 and we have new and daunting challenges ahead. Our mission, to achieve enduring excellence in research and education in engineering for the benefit of society, is more important than ever.We, at APSIT, hope to see you all soonrefreshed and rejuvenated.

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





**Computer Engineering** 

# Preface

#### Dear Readers,

This third edition of "Opcode" Computer Engineering Department's Newsletter makes its presence during this period of lockdown, caused due to COVID-19. We do not know for how long the COVID-19 pandemic will continue to disrupt our societies, but it is important that we act to limit and mitigate its impact on education, and all areas of our mandate. In this unpredictable and fluid situation, where students and teachers are spending long and disrupted periods away from the classroom, the department will strive to provide inclusive, expansive and high-quality education essential for ensuring that every student can fulfil their potential academically and professionally.

The academic year was bustling with various academic and extra-curricular activities. This magazine, indeed, is an honest effort to showcase all the departmental activities, student and faculty achievements in the academic year. The outstanding articles of our gifted and innovative minds are sure to captivate the imagination of the readers.

I would like to extend my sincere gratitude to our Chairman Mr.Chirag Shah, Trustee Mrs.Pooja Shah, other members of the Management, Principal Dr.Uttam Kolekar, Dean Academics Prof.Atul Deshpande, Dean Administration Dr.Sameer Naniwadekar for their ongoing support in all endeavours. I would like to congratulate and thank my faculty team for their every bit of service for the department and do expect the same in times to come. I remain grateful to all the parents and well-wishers for your priceless support and cooperation at this moment. Congratulations to the members of editorial board and the students for being a constant support throughout the process, from the conceptualization of the idea to the last stage of publication and combinedly helping in materializing this issue of 'Opcode'.

Prof. Sachin H Malave Head of the Department



## The Opcode Team

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# Table of **Contents**

• STTP • Expert Talks

• Faculty Development Programmes

- Industrial Visits
- Coding and Gaming Events

#### PERFORMANCE

- Toppers List
- Result Analysis
- Placement List
- List of students pursuing Higher Studies
- List of student internships

#### INNOVATION

• Technical Articles • Non-Technical Articles



### **EVENTS**

#### ACHIEVEMENTS

- Faculty
- Student-Technical
- Student-Extra Curricular

# Vision

To become nationally reputed department producing universally competent engineers, to benefit sustained growth of an individual and the society at large.

# Mission

- 1. To provide learning ambience for students and faculties through infrastructure, expertise and training.
- 2. To develop technically competent professionals with strong foundations, capable of adapting with the changing technologies for developing world class softwares.
- 3. To inculcate professional, social and ethical values in students by providing opportunities to solve environmental and social problems.

## Departmental Events

Committed to quality technical education, the department excels in promoting Faculty Development Programmes, Seminars, Workshops, Short Term Training Programmes and technical events which keeps the faculty members and students abreast in their respective fields. A look back at a few of the events and moments that marked the past year at our department...

### STTP ON AWS CLOUD FOUNDATION

STTP on " AWS Cloud Foundation " was organized from 16/06/2019 to 21/06/2019 (6 Days) in lab 314. Mr. Pranav Phadke and Mr. Chinmay Anaokar from Brainfloss Solutions conducted the training program. Faculty members and students of APSIT belonging to the Department of Computer Engineering and Information Technology participated in the course.

The contents covered during the program include introduction to Cloud Computing, types of Cloud Computing, introduction to AWS global infrastructure, AWS core services, building a web server, load balancing and monitoring, security on AWS,serverless with Lambda, billing and support. Certificates were distributed to all the students who successfully completed the session.

### INTRODUCTORY SESSION ON UNITY

An introductory session on Unity was conducted on 02/08/2019 in lab 314. The session was conducted by Mr. Anmol Majithia, Mr. Jatin Saini and Mr. Anooj Sarvankar from TE Computer. 15 students attended the session. The main objective of the session was to give an introduction to Unity





software and navigating through Unity Tool. The session also focussed on the widespread areas where Unity is used like automation industry, fashion, graphics, city development etc and the numerous job prospects for the students in this field.

#### EXPERT TALK SERIES

On the 3rd August 2019, A. P Shah Institute of Technology organized a series of expert talk sessions for students of Computer Engineering and IEEE Members. The sessions were organized under the guidance of Prof. Sachin Malave, HOD of Computer Engineering.



#### EXPERT TALK ON ROLE OF IEEE FOR SOCIETY AND **ENVIRONMENT**

The first session was taken by Dr. B. Satyanarayana, Scientific Officer(H). Tata Institute of Fundamental Research. Mumbai. The main motto of this session was to give students an idea about the role of IEEE for society and environment.

#### EXPERT TALK ON MACHINE LEARNING

The second session was taken by Mr. Ajinkya Kolhe, Google, Data and ML Instructor. In this session the expert covered topics under Machine Learning and assigned different tasks to students. The students were bifurcated into small groups so that every student got hands-on experience.

#### EXPERT TALK ON "DATA STRUCTURE AND ANALYSIS"



Algorithm analysis is an important part of computational theory. The department organized an expert talk," Data Structure and Analysis " on 10th August 2019. Mr. Rajesh Singh Vats from Vision Gate was the resource person. The talk aimed to provide knowledge to students regarding data structures and algorithm analysis. The speaker, Mr. Rajesh Singh, was informative about how to estimate complexity of an algorithm in the asymptotic sense, i.e., to estimate the complexity function for large input. Many examples regarding how to write an

efficient algorithm, in terms of time complexity were discussed. Also, asymptotic analysis was discussed in detail with help of asymptotic notations. Mr. Singh also guided students about higher studies and entrance exams like GATE and GRE .The pattern of the question papers for both the exams was discussed. Mr. Singh also discussed a few success stories of students who scored ranks in top 200 in GATE exam which really motivated students.

#### TRAINING PROGRAMME ON NVIDIA DEEP LEARNING

A training program on "NVIDIA Deep Learning " was conducted on 21/08/2019 in lab 317. Mr. Sarthak Garg from Micropoint Computers Pvt. Ltd conducted the training program. Faculty members and 34 students of second and third year of APSIT belonging to the Department of Computer Engineering and



#### EXPERT TALK ON HOW TO PREPARE FOR GRE

Graduate Record Examinations (GRE) is a standardized exam conducted by many institutes from the United States and Canada for the students who are willing to apply for post graduation. To make the students familiar with the exam pattern and its norms a session for GRE Exam Guidance was arranged on 28 th August 2019. Mr. Mitul Gada was the guest lecturer. The session started with an introduction of the GRE exam pattern and how different it is from regular college level exams. The marking scheme for GRE and how score analysis is done was discussed. Mr. Gada then took a few GRE questions to

#### TRAINING PROGRAMME ON NVIDIA DEEP LEARNING

Training program on " NVIDIA Deep Learning " was conducted on 30/08/2019 in lab 311. Mr. Sarthak Garg from Micropoint Computers Pvt. Ltd conducted the training program. 8 students of the final year of APSIT belonging to the Department of Computer Engineering participated in the course. The



Information Technology participated in the course. The contents covered during the program consisted of CPU vs GPU, anatomy of neural networks, processing flow and hands on session on NGC/NVIDIA Docker.

describe the pattern and diversity of questions asked in the GRE exam. Later on the fees structure and cost of living in particular countries were explained. The session ended with a brief discussion of future opportunities and career paths which are opened due to GRE and the benefits of studying in a foreign university. Overall the session was very informative and cleared the basic myth of engineers that verbal is very difficult in GRE and it was stressed that it could actually be cleared with basic techniques.

contents that were covered during the program consisted of CPU vs GPU, anatomy of neural networks, processing flow, NGC/NVIDIA Docker and hands on Linear Regression and XGBOOST- Ensemble learning.

#### WORKSHOP ON GAME DEVELOPMENT IN UNITY

Unity is a Multi-utility platform ranging from Gaming, Augmented Reality, and Immersive Technologies like holographs, training simulation etc. The purpose of conducting this workshop was to make students familiar with one of the most booming technologies of this era. This workshop was organized by the Department of Computer Engineering on 10th Sept 2019. Mr. Madhur Gupta, Field Engineer at Unity Technologies conducted the workshop which was aimed at providing knowledge and information to students regarding the widespread areas where unity is used like automation industry, broadcast industry, fashion, graphics, city development etc and the numerous job prospects for the students in this field. The session covered topics like introduction to the Unity

software, how to create objects, how to manipulate them via scripts, how to navigate in Unity and how to create executables on different platforms like ios, android etc.

The session was overall informative and motivational for the students of SE,TE and BE. Mr. Madhur Gupta also demonstrated by developing a game and gave ideas about the types of games that can be developed. He also discussed the Resources and Certifications that the students can do in Unity and the benefits of it. He also gave a briefing on Unity Forums and Student Circles for making it integral to study and implement it with ease which really motivated students.



#### AWS CLOUD FOUNDATION WORKSHOP



Workshop on " AWS Cloud Foundation " was conducted on 14/9/2019, 15/9/2019, 21/9/2019, 22/9/2019 and 25/9/2019 (5 Days) in lab 314. Mr. Pranav Phadke from Brainfloss Solutions conducted the training program.Students of APSIT belonging

to the Department of Computer Engineering and Information Technology participated in the course. The contents covered during the program were Cloud Concepts, Core Service, AWS Security, AWS Architecting and Cloud Economics

#### SESSION ON LATEX

A session on Latex was organised for students of Computer Engineering and Information Technology on 20th September 2019 under the guidance of HOD Computer Prof.Sachin Malave.

The hands-on session was taken by Prof. Vishal Badgujar faculty of IT department. A dedicated 60 node lab was facilitated to students so that every student got hands-on experience on LaTex. The session started by answering basic questions such as why LaTex is required for proper, well formatted documentation, how it can be implemented in online and offline platforms, what are the different tools available for LaTex in different operating systems, the advantages and disadvantages of such tools for better selection etc.



#### EXPERT TALK ON CHANGING INDUSTRY TRENDS AND FOREIGN OPPURTUNITIES

An expert talk on " CHANGING INDUSTRY TRENDS AND FOREIGN OPPORTUNITIES " was conducted on 26th September 2019 by Mrs. Sujata Kolekar. 38 students of BE, belonging to the Department of Computer Engineering and Information Technology attended the talk. Sujata Kolekar Madam discussed various career opportunities in Japan. She also discussed the changing trends of industry and what are the industry requirements. She also explained the entire procedure about how we can take advantage of the foreign opportunities. She also briefed about the exams students have to attend ,their preparation, format and some tricks to crack them. She gave a detailed overview of the opportunities and how to approach them from start to end.

After the explanation, the Final Year Thesis LaTex template was given to all students which included all the guidelines by University of Mumbai for the fulfillment of black book preparation, so that students got hands-on experience by using the online platform of overleaf for latex. The session was informative and gave basic idea about LaTex which students could later use to prepare their project reports, presentations, and publication papers.

#### WORKSHOP ON "NVIDIA DEEP LEARNING FUNDAMENTALS



A workshop on "NVIDIA Deep Learning Fundamentals for Computer Vision" was conducted on 12/10/2019 in lab 314. Ms. Jaya Gupta , NVIDIA DLI Ambassador conducted the training program.2 Faculty members and 33 students of second and third year of APSIT belonging to the Department of Computer Engineering and Information Technology participated in the course. The main agenda of the session was to impart knowledge through hands-on on fundamental topics in Deep Learning for Computer Vision. The topics covered

during the course included implementing common deep learning workflows, such as image classification and object detection, experiment with data, training parameters, network structure, and other strategies to increase performance and capability, deploying neural networks to start solving real-world problems. The frameworks used were Caffe and DIGITS.33 students and 2 faculty completed the assessment and received NVIDIA certificate.

#### IEEE TENSORFLOW EVENT



The APSIT student branch of IEEE organized an interactive, fun session on Tensorflow 2.0 on 26 October 2019. The objective of the session was to educate the young generation on the immense scope and uses of Tensorflow 2.0, as well as Machine Learning. Mr. Santosh Chapaneri, Assistant professor at SFIT and former Microsoft employee; and Mr. Indranil Chandra, researcher and innovator, were the guest speakers at the session. The event began at 10 a.m. with the college's resident Google certified educator and ML trainer, and head of IEEE APSIT student branch, Mr. Ali Mustafa Shaikh, felicitating the guest speakers with a Goddess Saraswati idol, as a token of welcome and appreciation. Mr. Ali then proceeded to hold an introductory lecture. Online quiz games were held to involve

the audience, and the winners were given various goodies as prizes. Mr. Santosh then took over to deliver a lecture on neural networks. He spoke about their uses in ML/DL and the basic concepts involving them. Mr. Indranil's lecture was held after Mr. Santosh's lecture. The focus of his lecture was on Tensorflow 2.0. He spoke at length about its advantages over the previous version and also gave a brief talk on neural networks. Mr. Indranil's lecture also involved explaining a sample code. The Tensorflow 2.0 event saw a good turnout. The audience gave positive feedback on the session. The online quiz games were also fun for the audience. All in all, the event was a success.

#### FDP/STTP ON DATA SCIENCE & BIG DATA ANALYTICS



Data Science and Big Data analytics (DSBDA) Course was conducted in association with ICT Academy from 2/12/2019 to 6/12/2019 for faculty and from 9/12/2019 to 13/12/2019 for APSIT students. M.Madhivanan from ICT Academy was the resource person for faculty training and Prof.Amol Kalugade was the resource person for student training. The course provided practical foundation level training that enabled immediate and effective participation in big data and other

#### IAM REMARKABLE WORKSHOP

An interactive workshop was conducted in APSIT on 14th December 2019 by Google, entitled "I am Remarkable. " Mr.Ali Mustufa Shaikh was the speaker, who is one of the facilitators for #lamRemarkable. The workshop started with a round of introductions, followed by a presentation about some of the obstacles that people, specifically under-represented groups face in the workplace. The presentation eventually turned into a group discussion at times.

The presentation was followed by an exercise wherein students were given a ruled paper with the title #iamRemarkable, and were told to write 3 points about themselves, both professional and personal which made them remarkable within 15 minutes. Around 4-5 students read the points they had enlisted about themselves. After the exercise the students were briefed about the importance of "self promotion" the effective way of promoting oneself professionally and personally. The students were then told about various techniques using which they can change their daily life in a positive way and the students were also explained how they could also become facilitators of #IamRemarkable.

analytics projects. It included an introduction to big data and the Data Analytics Life cycle to address business challenges that leverage big data. The course provides grounding in basic and advanced analytic methods and an introduction to big data analytics technology and tools, including MapReduce and Hadoop. The extensive labs throughout provided many opportunities to apply these methods and tools to real-world business challenges as a practicing Data Scientist.



#### INDUSTRIAL VISIT TO SARAS JODHPUR DIARY

The department organized a 7 Day industrial visit to Saras Jodhpur Diary, Jodhpur in Rajasthan from 01/01/2020 to 07/01/2020.24 students from TE and BE were accompanied by Prof. Sachin B. Takmare and Prof. Archana Kotangale on this trip.



#### TECH RACE

The Department of Computer Engineering hosted an event named TechRace on 5th February 2020. 22 teams participated in this event. After the first round only 12 teams out of 22 were selected for appearing in the next round. The first round was conducted as a quiz to filter the teams and make them appear for the second round. In the second round as per schedule a treasure hunt was conducted. In this event, the task was to find a photo ('meme') hidden somewhere on the college website. Twisted clues were given to the round two qualifiers. The first team to complete this task was that of Ms. Amruta Deshpande and Ms. Shreya Chaudhari who eventually turned out to be the winners of this event.



#### EXPERT TALK ON UNITY

An expert talk was organized by the Department of Computer Engineering and Information Technology on 6th February 2020. Mr. Madhur Gupta, Field Engineer at Unity Technologies, was invited for the event which was aimed at providing knowledge to students regarding the certification exam. The various certifications for game courses available under Unity Academia were discussed. Upcoming fields such as 3D game development, AR, VR were introduced to the students. On completion of the basic course provided by college, the various career opportunities that would be available for students was also discussed. Students were given information on how the game development life cycle was in the past and how it has evolved and changed over the time.

The sesion was overall informative and motivational for the students of SE, TE and BE. Mr. Madhur Gupta gave ideas about the types of games that can be developed and how the certification course can be successfully completed.



### CODE BLOCKS

Department of Computer Engineering hosted Code Blocks on 6th February 2020, a coding event based on the capabilities that every programmer should have as an individual. The event consisted of various coding challenges for the participants. The participants were supposed to solve as many problem statements as they can. The event had 14 participants and the



#### GAMING

The Department of Computer Engineering hosted a gaming event on 7th February 2020 for all aspirant gamers. The game was Counter Strike : Global Offensive [CS:G] and each team was supposed to play a competitive match with 16 rounds. There was a qualifier round for elimination. There were 5 teams



#### ARTICLE PRESENTATION



The Department hosted an article presentation event on 7th February 2020. The event witnessed participation of more than 15 students from SE, TE and BE. Each student was given equal amount of time for preparing the article. The best article was

competition was of 5 levels. Each participant started with a basic level problem statement, and as the level increased the complexity of the competition also increased. The first participant who completed the challenges in a minimal amount of time and with efficient lines of codes turned out to be the winner. Mr. Yash Sampath from TE won the event.

who participated in the event. The winners for this event were from the third year of department of computer engineering and the team members were Atharva Kulakrni, Anshul khairnar, Parin Doodhiya, Yash Payare and Keyur Mithari.

supposed to be published in the next edition of the departmental magazine 'OPCODE'. Prabhjyot Singh Dhanjal from TE won the event with his article on "Microservices Architecture".

#### NBA ACCREDITATION PROCESS

To ensure quality of education, APSIT went through the accreditation process of National Board of Accreditation (NBA) for the eligible UG courses. Recently NBA Expert Committee visited the institution on 14th,15th and 16th February 2020 for NBA Accreditation of 5 UG programmes i.e. Civil Engineering, Computer Engineering, Information Technology, Mechanical Engineering, and Electronics & Telecommunication Engineering.

The expert team of NBA critically appraised the institute's programs through a rigorous assessment process to ensure if the programs meet the standards of quality education. Experts also had an interaction with various stakeholders like faculty members, staff members, students, alumni members,

recruiters, and parents. The NBA peer teams expressed their satisfaction over almost all the facilities, teaching-learning processes, student performance; motivation levels of the teachers and thereby, the potential of the college for excellence.

APSIT is awaiting the result and believes that accreditation will further enhance the quality of the teaching-learning processes. The department has been applying the concepts of continuous program improvement and with the accreditation in place, this will further enhance. This will also make the institute more accountable in the public eye to be an institute which is committed to academic excellence and quality improvement.

#### APSIT SKILLS INAUGURATION



APSIT Skills Center is an innovative model for teaching and learning globally trending technologies to achieve the industrial objective through hands-on training. APSIT Skills Center focuses on international certification and hand-on training in futuristic technologies to prepare industry ready engineers.

Apsit Skill was inaugurated on 8/07/2020 by M. P. Poonia, Vice Chairman of All India Council of Technical Education. Dr. Pratapsinh Desai, President, Indian Society for Technical education (ISTE), Shri Sandeep Acharya, Deputy Editor of Loksatta, Dr. C. S. Verma Regional Officer, AICTE WRO, Shri. Chirag Shah, Chairman, Parshvanath Charitable Trust and Dr. Uttam Kolekar, Principal, APSIT Dr. Sameer S Nanivadekar, Dean - Admin ,Dr. Athul Deshpande, Dean Academics graced the occasion.



#### NVIDIA" DEX STATION" AI WORKSTATION FOR DATA SCIENCE TEAMS



NVIDIA DGX-1 with Integrated software and hardware system that supports students commitment to AI research with an optimized combination of compute power, software and deep learning performance.



The event was attended by various industry representatives from companies such as NVIDIA, Tesla Business, Dassault Systemes, Bently Institute India, Autodesk, Ansys software, Unity 3D, Blockchain Council, MSC Software Corporation, Ashnik Singapore, Siemens Industry Software, Primus Techsystem and Oracle Academy.





#### PROJECT BASED LEARNING

Project Based Learning is a novel teaching method & initiative of APSIT designed to address these requirements to make your ward ready for Industry. It helps students to learn better and it motivates students to gain knowledge, and remember it longer. Moreover it gives students the chance to apply the skills they learn in Engineering to technology to real-world situations. The skills acquired will help students to succeed in professional life. Prof. Jaya Gupta coordinated the training programmes under the guidance of Academic dean Prof A. M. Deshpande, Administrative Dean Dr. Sameer Nanivadekar and Principal Dr. Uttam Kolekar.

#### WEB STACK

An exclusive training on Web Stack under PBL for TE students (Semester V) was conducted from 3rd June 2019 to 8th June 2019. Mr. Vinayak Narkar , WEBVARAD Solutions, was invited as resource person from industry. 45 TE students were present for the training. The expert covered all the topics under web stack and assigned different projects for various groups of students.



#### JAVA

An exclusive training on JAVA under PBL for SE students (Semester 3) was conducted from 1st July 2019 to 6th July 2019. Mr. RamKumar K, JNIT Solutions, was invited as resource person from industry.49 SE students completed the training. The expert covered all the topics under Core JAVA and assigned different projects for various groups of students.



#### MACHINE LEARNING

An exclusive training on Machine Learning under PBL for TE students(Semester VI) was conducted from 9th December 2019 to 14th December 2019. Mr. Ali Mustafa, Google CrowdSource, was invited as resource person for training. 45 TE students underwent the training. The expert covered all the topics under Machine Learning and assigned different projects for various groups of students.



#### PYTHON

An exclusive training on Python under PBL for SE students (Semester VI) was conducted from 30th December 2019 to 4th January 2020. Mr. RamKumar K, JNIT Solutions, was invited as resource person from industry. 50 SE students were present for the training. The expert covered all the topics under Core Python and assigned different projects for various groups of students.



### DEPARTMENTAL SOCIETIES/STUDENT CHAPTERS

#### Lead, Serve and Inspire @ APSIT

Involvement in student associations and chapters causes student leadership development. It creates a sense of responsibility, independence, satisfaction and more positive attitude to life.

#### Computer Engineering Students Association

CMSA is an integral part of the educational mission of the college. As the center of the college community life, CMSA complements the academic experience through an extensive variety of cultural, educational, social, and recreational programs. These programs provide the opportunity to balance course work and free time as cooperative factors in education

## CMSA

#### President : Mr. Aditya Joshi

The President shall have the general responsibility for coordinating the activities of CMSA and for directing and overseeing the publicizing of the affairs of the Student Body. He shall preside at all Student Council meetings.



#### Vice President : Mr. Anmol Majithia

The Vice-President shall share the duties and responsibilities of the President.



#### Secretary : Mr. Ashwin Shenolikar

The Secretary shall be responsible for recording the minutes and acting as official timekeeper of all CMSA meetings. The Secretary shall maintain the permanent records of the Student Council and he/she will assist the President and Vice-President. She shall preside at Student Council meetings in the absence of the President and Vice-President.



#### Treasurer : Ms. Sanika Chavan

The Treasurer shall be the custodian of the Student Association's funds. She shall keep all financial records, disburse funds, and present monthly and annual accounts of financial status of the Student Association.



# Academic Performance

An enviable track record of academic excellence.coupled with hands-on industrial training, and innumerable industry-institute interaction makes each student ready to be absorbed in the industry.

Students who secured above 9 pointer in the Semester III, Semester V and Semester VII examinations held in November 2019.

SE

RANK	NAME OF STUDENT	CREDIT
1	Bangale Sayali	10
1	Jain Harshita	10
1	Koshe Amrutha	10
1	Masur Anjali	10
1	Tantry Rakshita	10
2	Haspe Aditi	9.85
3	Khedekar Sejal	9.69
3	Rodrigues Royston	9.69

#### TE

· <u> </u>		
RANK	NAME OF STUDENT	CREDIT
1	Shelke Asmita	10
1	Apurva Patil	10
1	Sable Chirag	10
2	Sawarkar Piyush	9.85
3	Samant Gaurav	9.7
3	Parkar Rohan	9.7
3	Sarvankar Anooj	9.7

#### BF

RANK	NAME OF STUDENT	CREDIT
1	Akansha Koshti	9.69
2	Samant Nirish	9.54
3	Tina Shah	9.31

The department congratulates the members of CMSA 2018-19, President Aditya Joshi, Vice President Mr. Anmol Majithia, Secretary Mr. Ashwin Shenolikar, Treasurer Miss. Sanika Chavan for their efforts.

8 WITH PERFECT 10! 5 students from SE computers and 3 from TE secured perfect 10 pointer in Semester III and V respectively.

### PLACEMENT DETAILS

STUDENT NAME	EMPLOYER NAME
Adesh Thosani	A One Salasar Pvt. Ltd./Contexio
Aditya Joshi	TCS/Infosys/HeadStrait
Aditya Sabale	LTI
Akshay Rathod	NSEIT
Anuja Velaskar	LTI
Ashwin Shenolikar	LTI
Falguni Tailor	LTI
Gouresh Khochare	NeoSOFT
Ketan Muddalkar	LTI
Mugadha Asagekar	LTI/Infosys
Nidhi Munavalli	Capgemini/Infosys/HeadStrait
Nirish Samant	LTI/TCS
Ranjit Desai	NeoSOFT/Infosys/HeadStrait
Rohan Dhere	NeoSOFT
Sailee Angane	LTI
Samiksha Bhilare	LTI
Sayali Kamble	LTI/ TCS
Shoib Khan	LTI
Suraj Shetty	TCS/Headstrait
Tina Shah	LTI/IBM
Yuvraj Yadav	Amazon Web Servies
Zahid Khan	ZYCUS/Neosoft

EMPLOYER NAME
LTI
A One Salasar Pvt. Ltd.
A One Salasar Pvt. Ltd.
NeoSoft Technology/Infosys
TCS
Infosys
Infosys
Infosys
Capgemini
Headstrait Software
Headstrait Software
Qspiders
Qspiders/Contexio
Extramarks/Whitehat Jr
Whitehat Jr
Capgemini
Contexio
Contexio/Randstand Technologies
Contexio
Course5 Intelligence
Course5 Intelligence
Qualitykiosk Technologies

### STUDENTS PURSUING HIGHER STUDIES

NAME OF THE STUDENT	NAME OF THE INSTITUTIO
Neel Shringarpure	Schema Business School
Purv Sharma	νιτι
Shantanu Veni	Royal Melbourne Institute of T
Yash Jain P	JBIMS

### INTERNSHIP DETAILS OF STUDENTS

	1	1
NAME OF THE STUDENT	NAME OF THE COMPANY	DURATION
Jay Shah	Nibodh	6 weeks
Gunjan Singh	Nibodh	6 weeks
Anshul Khairnar	Reliance Life Science Pvt.Ltd	1 month
Chirag Sabale	BARC	1 month
Chinmay Sawant	Manufacturing and Fabrication	1 month
Asmita Shelke	L&T Infotech	1 month
Anjani Doradia	Krishmark Infotech	1 month
Ritika Rane	Sigmaflux	1 month
Shambavi Kulkarni	Verzeo	3 month
Yash Chavan	Contiloe Productions	1 month
Purti Lalan	Eduvance	1 month
Purvi Lalan	Eduvance	1 month
Saloni Jackeray	Arise	1 month
Siddesh Kokane	Hindustan Petroleum Corporation Ltd	1 month
Mukesh Singh	FINDCreative avenues LLP	8 months
Gauri Deshpande	Umang FoundationTrust	1 month
Ashwin Shenolikar	Nucsoft Ltd	1 month
Gouresh Kochare	Suven Consultants and Technology Pvt Ltd	3 days

## RESULT ANALYSIS

ACADEMIC YEAR	% OF STUDENTS PROMOTED FROM			
	FE	SE	TE	BE
2016-17	95.31	86.84		
2017-18	90.32	83.33	88	
2018-19	83.58	84.52	82.7	98.7

DN	
Technology	

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# Faculty Achievements

The success of the courses offered by this department lies in the sound technical knowhow and field experience of the faculty members who are constantly researching and adopting evolved methods of pedagogy.

#### PHD COMPLETION

Prof.Rahul Ambekar completed PhD from Pacific Academy of Higher Education and Research University, Udaipur under the guidance of Dr Uttam Kolekar. The research topic was "A Comprehensive approach towards enhancing topology hiding multi path routing protocol in Mobile Adhoc Network".

Prof.Pravin Adivarekar completed PhD from Singhania University, Rajasthan. The research domain was Sensor Networks and the research topic was "Sparsh - Intra body Communication".

#### **KEYNOTE SPEAKER**

Prof.Rahul Ambekar served as Keynote Speaker at Two days National Level Awareness workshop on "Outcome Based Education And NBA under TEQIP-III, sponsored by BATU, Sandipani Technical Campus, Latur.

#### STTP/FDP/WORKSHOPS/SEMINAR ATTENDED

Prof. Mayuri Jain attended 7-Days Short Term Training Programme on Natural Language Processing by Shah and Anchor Kutchhi Engineering College from 02/01/2020 to 08/01/2020.

Prof. Merlin Priya Jacob attended a 5 days FDP on Cyber Security Infrastructure Configuration by ICT Academy from 16/12/2019 to 20/12/2019.

Prof. Rahul Ambekar attended a 7 Days FDP on Universal Human Values at APSIT, Thane.

Prof. Rahul Ambekar attended a 3 Days FDP on Universal Human Values at APSIT.

**Prof.** Amol Kalugade has participated in 5 Day Faculty Development Program on Data Science and Big Data Analytics conducted by ICT Academy in association with DELL EMC from 02 Dec 2019 to 06 Dec 2019 at APSIT.

#### NPTEL/ SWAYAM/ OTHER CERTIFICATIONS

Prof. Ramya R B completed Swayam Course on Introduction to Cyber Security offered by Dr. Jeetendra Pandey of Uttarakhand Open University, Haldwani.

Prof. Merlin Priya Jacob completed 12-Weeks FDP on Programming in JAVA by NPTEL.

#### Prof. Pravin Adivarekar completed

- 1) Palo Alto Networks Academy Cybersecurity Foundation
- 2) Palo Alto Networks Cybersecurity Gateway I
- 3) Palo Alto Networks Cybersecurity Gateway II
- 4) Palo Alto Networks Cybersecurity Essentials I
- 5) Palo Alto Networks Cybersecurity Essentials II

#### Prof. Brinal Colaco completed

- 1) IBM-What is data science
- 2) IBM-Data science methodology
- IBM- open source tools for data science
- 4) IBM-python for data science and Al



# Students Achievements

The journey is as important as the outcome..

At COMPs, the students are encouraged to grab every opportunity and unleash the potential within them by participating or organizing.

The students of our department has yet again proven their mettle by participating and winning prizes in various technical events

#### TECHNICAL

#### GATE RANK 2 !!!

Mr. Tanmay Sule, B.E., Computer Engg. student secured All India Rank 2nd in GATE examination 2020



#### GAME OF CODES

Anmol Majithia and Jatin Saini from T. E Comps won the 3rd Prize in the Game of Codes event held at DBIT, Kurla on 28/09/2019.

#### VIL CODE FEST

Jatin Saini also won the fourth prize in the VIL CODE FEST 2019 HACKEREARTH, held at Birla Centurion Worli, Mumbai on 14/02/2020 and 15/02/2020.



#### INTRA INSTITUTE TECHNICAL EVENTS

Sr. No	Name of Student	Name of Event	Date	Prize Won
1	Yash Sampat	Codeblocks	6/2/2020	1 <sup>st</sup> Prize
2	Atharva Kulkarni			
3	Anshul Khairnar			
4	Parin Dodhiya	Gaming	7/2/2020	1 <sup>st</sup> Prize
5	Yash Payare			
6	Keyur Mithari			
7	Prabjyot Singh Dhanjal	Article Presentation	7/2/2020	1 <sup>st</sup> Prize

#### GLOBAL CERTIFICATIONS

Sr. No.	Course Name	Number of Certification
1	Blockchain	29
2	NVIDIA Deep Learning	30
3	Oracle Academy Database Foundations	44
4	Oracle Java Foundation	34
5	Oracle Java Programming	16
6	Intel AI Academy	35
7	Dell EMC	26

#### SPORTS

Event Name	Position
Do dge Bal I	Winner
Tug of War Boy	Runner Up
Tug of War Girls	Winner
Box Cricket Boys	Runner Up
Box Cricket Girls	Winners
Rink Football	Runner Up









Event Name	Position	Student Name	Class
Doubles Badminton(Girls)	Winners	Mugdha Agsekar	BE Comp
Doubles Badminton(Oiris)	w inners	Mugdha Agsekar   Samruddhi Kulkarni   Bhavin Khalsariya   Yuvraj Yadav   Mugdha Agsekar   Mugdha Agsekar   Akansha Koshti   Mugdha Agsekar   Chinmay Marathe	BE Comp
Carer (Paus Doubles)	Runner Up Yuvraj Yadav Runner Up Mugdha Agsekar Mugdha Agsekar	TE Comp	
Carom (Boys Doubles)		Yuvraj Yadav	BE Comp
Table Tennis(Girls Singles)	Runner Up	Mugdha Agsekar	BE Comp
Table Terris (Cirls Deubles)	Runner Up	Mugdha Agsekar	BE Comp
Table Tennis(Girls Doubles)		Akansha Koshti	BE Comp
	<u></u>	Mugdha Agsekar Winners	BE Comp
Table Tennis(Mix Doubles)	w inners		TE Comp
Chess (Boys Single)	Winner	Atharva Vaidya	BE Comp

### EXTRA-CURRICULAR

Event Name	Position	Student Name	Class
Face of Ojus	Winner	Sailee Angane	BE Comp
IPL Auction	Winner	Meet Shah and Group	BE Comp
Mr.APSIT	Winner	Arafaat Chaudhary	BE Comp





# Innovation

#### ARTICLES

#### Innovative young minds on fire

Writing a technical article that can be published in a magazine, conference or journal is a challenging undertaking. Witness our dreamers thinkers and doers trying to share their knowledge of a technology, project or software they are excited about.

#### WHY SVELTE SHOULD BE YOUR NEXT JAVASCRIPT FRAMEWORK. Royston Rodrigues, SE Computer

ront end Development is perhaps one of the most fascinating aspects of Web Development. It started off with simple HTML web pages back in the day but it has now completely evolved into Complex Web Applications involving Fluid Animations, Responsive Design, 3D Art, State Management and Intuitive UI Design all thanks to modern CSS and Javascript. Developers use complex frontend frameworks like React, Angular and Vue to develop these applications. But if you were to ask me about my favourite framework, my answer would be Svelte. And in this short article I would like to present my top 5 reasons as to why I love Svelte for my frontend projects.

#### 1. Small Footprint

Svelte, similar to React, Angular and Vue is a Javascript framework/library for developing web applications. But unlike traditional frameworks which do most of their work in the browser. Svelte instead is a compiler, which compiles your project into plain vanilla Javascript, which means that you will always ship a much smaller Javascript bundle compared to the other popular frameworks. This results in applications that load and work faster compared to the other frameworks. And unlike Angular which is a complete framework with built in routing, server side rendering etc. Svelte, on the other hand, is just a component library, meaning that you as the developer write significantly lesser code and only import other libraries as and when required.

#### 2. Ease of Use :

Having used both React and Svelte, I can safely say that the overall development experience is much smoother and quicker in Svelte. With React, your components are basically Javascript files which are embedded with HTML, which personally I found quite annoying to work with. However, with Svelte components, you are basically writing HTML which has been supercharged with Javascript,

which feels like a native experience. Also, it's quite easy to pick up. You don't need tons of experience with the Frontend or Typescript to get started. Even with basic understanding of HTML, CSS and Javascript, you can start right away on developing with Svelte.

#### 3. Truly Reactive :

Svelte, by default is reactive in nature, whenever the state of any component changes, it automatically updates and rerenders the component. It natively supports two-way binding, which personally is one of my favorite features, and is so much better than React's way of doing it. Svelte also has a really cool feature, called derived declarations which are represented using the \$ operator, which allows developers to write reactive code that gets executed anytime the state of the variable within this block changes.

4. Built-in Animations and Effects :

Svelte provides built-in animations and effects which allow developers to create intuitive and responsive user interfaces with less code. Svelte provides a plethora of transitions such as fade, ease-in, easeout and more, which can also be customized as per the requirements. This is especially useful for developers who

want a quick fix for transitions and effects and instead want to devote more time on the working of complex components.

5. Stores :

Even though the component state resides within each individual component, not all of the application's state resides in the components. There may be times where you will need to store your application state in a separate location, which can be accessed by each component or external java script modules. Thankfully, Svelte has a great way of handling this, using Stores, which is basically a Javascript object that allows components to listen to changes and retrieve data from the Store. This is especially helpful when dealing with complex state management.

These were some of the reasons which make Svelte an absolute joy to work with. And although it is a newer technology, it has a rapidly growing community of developers supporting this project. I hope you do try out this amazing piece of technology, maybe just to check it out or for creating your own Portfolio or a Complex Project.

Happy Learning.

AI AND COVID-19

rtificial intelligence (AI) has leveraged the pandemic to develop extraordinary resources to help with the COVID-19. AI earlier was being used in the identification of disease, biomedical image classification for clinical diagnosis using CT-Scans-ray images and predicting the outbreaks by tracking local news and social media accounts and much more.



#### Al in tracking of Cases around the World

Al can be utilized for forecasting the spread of virus and developing early warning systems by extracting information from social media platforms like Twitter, Facebook, News Channels and provide useful information about the most affected region. Blue dot, a proprietary software-as-a-service, was designed to locate, and track infectious disease spread around the world. The company had received a total of \$9.4 million in funding in 2019, now contains diverse team of 40 people including veterinarians, doctors, epidemiologists, engineers, data scientists and software developers. The predictive tool which they use collects airtravel data to assess the risk that transit hubs might see infected people either arriving or departing. A Canadian based forecasting agency developed a Deep learning algorithm for the long-short-termmemory network, the studies found out a key factor intended for predicting the course with an end point estimate of the current SARS-CoV-2 epidemic in Canada and all over the globe.

#### Al in development of vaccines

Typically it takes years, if not decades, to develop a new vaccine. But with AI the pace of vaccine development has accelerated much faster. There are tens and thousands of subcomponents to the outer proteins of a virus. Artificial Intelligence can sort through all of the data and predict which subcomponents are capable of producing an immune response-and thereby guide researchers and doctors in designing targeted vaccines.

#### Al in early diagnosis

Al was used for the detection of COVID-19 cases from chest x-ray and CT scan images. Researchers have developed a deep learning model called COVID-19 detection neural network (COVNet), for differentiating between COVID-19 and community-acquired pneumonia based on visual 2D and 3D features extracted from volumetric chest CT scan . Another study used AI-based classifiers to predict the outcome of RT-PCR results of COVID-19 cases using 16 simple parameters derived from complete blood profile through research.

#### Al in fighting spread of misinformation

The COVID-19 "infodemic" (informationpandemic) had spread more than the virus itself. To fight this spread, social networks and search engines are using personalised Al information and tools and relying on algorithms to find and remove problematic material on their platforms. Al is also used to identify trends, sentiment analysis and provide information regarding the origin of false information. It also helps in curbing rumours and misinformation. Al can further provide the latest updates about the emerging evidence in diagnosis, treatment, which will help the public in overcoming fear and panic situations.

## Sejal Khedekar (SE Computer)

#### Conclusion

Thus, AI works in an efficient way to act like human intelligence. It has also played a vital role in understanding and fast tracking the development of a vaccine for COVID-19. These AI applications are used to track data of confirmed, recovered and death cases. Hope we will overcome it some day!

#### PARALLEL PROCESSING IN BIG DATA PIPELINE

Vatsal Mehta(SE Computer)



arge applications and systems that depend on huge workloads of data in the backend need processing that maintains a balance between computation cost and time efficiency.

A Data Pipeline describes and encodes a series of sequential data processing steps.Various tools can be used for scheduling data pipelines and ETL processes for the backend. One such famous tool is Apache Airflow where data pipelines are well expressed as Directed Acyclic Graphs(DAGs).

#### Apache Airflow and DAGs :

In apache airflow a DAG is a collection of all the task/functions you run in a scheduled manner where one can define various types of relationships between the tasks to be executed.

Airflow is generally used to automate complex data pipelines that involve tasks from fetching data, performing sql queries, processing data and feeding it back to the backend.

#### Parallel Processing:

Consider a use case where you have bulk data stored in a data warehouse(google bigguery) and you need to fetch data to perform various sql queries on it for your backend software ,after this you need to preprocess this data and send it back to bigguery in a new table and then the endpoint of this would be linked with your application/software through which end user operations will be performed. This has to be performed every week for your ecommerce backend along with many small tasks in the process.

This whole operation would be difficult to perform sequentially when you have bulk data because a single function with sql query would take in lot of computation time and it becomes necessary to automate it by making a pipeline in Apache Airflow.

• Thus we divide the data into chunks of 7 days in task mifo start and execute the same sql query over all the chunks by defining them into various tasks, at the same time we can add another

task(eg start ad id query) that would make a backup of initial table.

- Processing 8 tasks in parallel requires more computation power but less time, the optimum number of tasks one should run in parallel depends on lots of factors like amount of data records in table, query complexity as well as time and power taken for each task execution.
- · The next task is started only after all parallel tasks are completed. After preprocessing as our need we send the data back to bigguery via the biggueryOperator in python (push googlebg) and then perform further tasks as our need.
- Sample code for the same can be found here: https://github.com/vatsalsmehta/Apa che-Airflow-Bigdata-Pipelines

## GRAPHS AND GRAPH EMBEDDINGS IN DEEP LEARNING

Shyamkrishna Jayaraj Menon (SE Computer)



his article is meant to provide you with an idea about what a graph is, what is embedding and why and how one should use a graph for solving problems related to deep learning.

Graph is a type of data structure. You may be familiar with it if you have studied Discrete Mathematics. Graph consists of nodes and edges (Fig.1). Mathematically, a graph, G=(V,E) where V is a set of vertices(nodes) and E is the edges between them. Even though graphs are difficult to analyze for human beings because of its unfixed forms, unable to represent in coordinate systems (also known as Euclidean space) and high complex structures (as nodes increase), they do have certain pros. Graphs are considered a better way in understanding relationships, graphs can be shaped in various ways so as to get different viewpoints over same scenario (just like changing the axis in coordinate system).

Graphs are widely used for studying and modelling social networks. It is used for analyzing, detecting and suggesting you

with your probable friends, what kind of group you are attached to, what kind of content you prefer as per your patterns in social media sites. Graphs can also be used for identifying fraud patterns.

Now let's see how graphs are used in deep learning. Deep learning is a subset of machine learning which uses neural networks for detailed processing and model creation. A neural network is a computational model that works in a similar way to the neurons in the human brain. It reflects the behavior of the human brain, allowing computer programs to recognize patterns and solve common problems in the fields of AI, machine learning, and deep learning. There are various types of neural networks like artificial neural network(ANN), recurrent neural network(RNN), convolution neural network(CNN), etc.

CNN is a neural network, most commonly applied to analyze visual imagery (Fig.2). CNNs use relatively little pre-processing compared to other image classification algorithms. This means that the network





learns to optimize the filters (or kernels) through automated learning, whereas in traditional algorithms these filters are hand-engineered. It's very difficult to perform CNN on graphs because of the arbitrary size of the graph, unfixed node ordering and the complex topology, which means there is no spatial locality. Spatial locality means that all those instructions/steps which are stored nearby to the recently executed instruction/step have high chances of execution. In the case of CNN, spatial locality property means that the pixels/voxels(for image/video) where the convolutional kernel is applied are highly correlated, and usually processing them jointly makes it possible to extract meaningful feature representations. For example, a single convolutional kernel can learn to extract edges, textures, shapes, gradients, and so on. But with graph structures, it becomes tough and costly both in time and computation. Thus the concept of graph neural network(GNN) arises.

GNN is a neural network that can directly



be applied to graphs. It provides a convenient way for node level, edge level, and graph level prediction tasks. The intuition of GNN is that nodes are naturally defined by their neighbors and connections. To understand this we can simply imagine that if we remove the neighbors and connections around a node, then the node will lose all its information. Therefore, the neighbors of a node and connections to neighbors define the concept of the node.

But for inputting a graph into the model, the graph has to be embedded. Embedding is a process of converting a high dimension graph into low dimensional vectors.

Graph embeddings (Fig.3) compress many complex features and structures of the data around a vertex in our graph including all the attributes of the vertex and the attributes of the edges and vertices around the main vertex. The process of creating a new embedding vector is called "encoding" or "encoding a vertex". The process of regenerating a vertex from the embedding is called "decoding" or generating a vertex.

With graph embedding, one can decrease the dimensionality and complexity for your model as vectors will consist of information about each of the nodes and its neighbors. There are 2 types of embedding processes.

A node embedding encodes each vertex (node) with its own vector representation. We use this embedding when we want to perform visualization or prediction on the vertex level, e.g. visualization of vertices in the 2D plane, or prediction of new connections based on vertex similarities. Few approaches are random walk, deep walk, node2vec, etc A graph embedding represents the whole graph with a single vector. Those embeddings are used when we want to make predictions on the graph level and when we want to compare or visualize the whole graphs, e.g. comparison of chemical structures. An approach will be graph2vec.

This is an overall gist about graphs, neural networks, CNN, GNN and embeddings on graphs.



Machine Learning Task



## सांस्कृतिक प्रदूषण समृद्धी कुलकर्णी (बे कॉम्प्यूटर)

आज संपूर्ण जग प्रदूषणाच्या विळख्यात अडकले आहे. माणसाच्या जीवनाच्या प्रत्येक क्षेत्रात प्रदूषणाने थैमान मांडले आहे आणि आता तर त्याची अवस्था दलदलीत अडकलेल्या माणसासारखी झाली आहे. जेवढा बाहेर याचा प्रयत्न करावा तेवढाच तो आत रुतत जात आहे.

प्रदूषण हे अनेक प्रकारचे आहेत. हवा, पाणी, माती, आवाज हे तर आहेच. शिवाय मानसिक प्रदूषण पण असतेच. प्रदूषण म्हणजे नक्की काय? एखाद्या गोष्टीचा प्रमाणापेक्षा झालेला एक प्रकारे अतिरेकच. सतत मनामध्ये वाईट विचार आणत राहणे, तिरस्कार, राग अशा कित्येक वाईट भावना मनात घर करून राहतात. आज अजून एक प्रकारचे प्रदूषण वाढीस आले आहे, ते म्हणजे "सांस्कृतिक प्रदूषण".

पूर्वीचा काळ आणि आताचा काळ हे दोन्ही पाहिल्यावर आपल्या लक्षात येईल की आपल्या संस्कृतीत किती फरक निर्माण झाला आहे. आज संस्कृतीच्या नावाखाली काहीही चालू आहे. जसा काळ बदलत गेला, तशी स्पर्धा वाढू लागली, विचारही बदलत गेले. आता एक उदाहरण द्यायचे म्हटले तर 'गणेशोत्सव'. लोकमान्य टिळकांनी सार्वजनिक गणेशोत्सव यासाठी चालू केला कारण त्यांना सर्व भारतीयांना एकत्र आणायचे होते, इंग्रज आपला छळ कसे करतात, हे त्यांना दाखवून द्यायचे होते. विचारांची देवाण-घेवाण कराची होती. सामाजिक मनस्थिती बदलायची होती. परंतु आज याला किती विद्रप रूप आले आहे!! सार्वजनिक गणेशोत्सवाचा उद्देश काय होता आणि आता तो कसा झालाय!! आज एका छोट्या भागात चार वेगवेगळे गणेशोत्सव साजरे केले जातात. मोठमोठ्याने गाणी लावणे, डीजे वाजवणे, विनाकारण गोंधळ करणे..... असं काही टिळकांनी करायला सांगितले नव्हते. काही काही नेते येऊन भाषण देतात तेही स्वतःचा फायदा असेल तरच. आमच्या भागातला गणपती नवसाचा आहे अशा अफवा पसरवायच्या आणि लोक वेड्यासारखा विश्वास ठेवून दर्शनाला येतात आणि मोठेपणा मिरवण्यासाठी पैसे दान करतात. पण पुढे त्या पैशांचं काय होतं, हे कोणालाच ठाऊक नसते. आमचा गणपती मोठा की तुमचा मोठा, ही अजून एक स्पर्धा. छोटा असो अथवा मोठा, गणपती सर्वांना सारखाच आशीर्वाद देतो. तो भेदभाव करत नाही. मग हे सर्व कशासाठी? या मुर्ती इतक्या मोठ्या असतात की विसर्जन करताना पण त्रास होतो. १० दिवस ज्या मूर्तीची पूजा केली जाते,तिला तोडायचं? हे योग्य आहे?

अजून एक उदाहरण द्यायचं म्हणजे दहीहंडी. कृष्ण आणि त्याच्या सवंगड्यांनी मजा म्हणून, लोकांची करमणूक व्हावी यासाठी हा खेळ चालू केला. पण आज त्याला भयाण स्वरूप आले आहे. आज दहीहंडी म्हणजे पैशांचा खजिनाच मानला जातोय. १०-१२ थरांची दहीहंडी ही काही मजा नाही. यात अगदी लहान मुलांना पण घेतले जाते. त्यांचा जीव किती मोलाचा आहे, हे आपल्याला कळतच नाही. लाखो रुपयांची दहीहंडी लावली जाते. सर्वात मोठी दहीहंडी म्हणून कलाकारांना बोलावतात आणि तेही वेड़यासारखे येतात. यासर्वाने काय होणार? दुसर्या दिवशी वर्तमानपत्रांमध्ये बातम्या येतात- इतक्या गोविंदांचा मृत्यू झाला, इतके जखमी झाले. आपल्या जीवापेक्षा पैसा इतका महत्त्वाचा??

यात अजून एक महत्त्वाची गोष्ट म्हणजे गड- किल्ले. जेव्हा फिरण्यासाठी किंवा गिर्यारोहणासाठी लोक गडावरती जातात, तेव्हा तिथे नुसता कचरा करतात, प्लास्टिकच्या वस्तू इथे तिथे टाकतात,थ्ंकतात,तेथील दगडांवर नावे लिहितात, तेथील प्राचीन वस्तूंची नासधूस करतात. आणि हे असे प्रकार करण्यामध्ये जास्त सहभाग सुशिक्षित व्यक्तींचा असतो. आपल्याला शोभून दिसतं का?? गड-किल्ले हे इतिहासाचे साक्षीदार असतात. पूर्वीचा काळ कसं होता, काय काय घडून गेले, राजांची कारकीर्द इत्यादींची माहिती आपल्याला समजते. याचे जतन करणे आपले कर्तव्य आहे. पण आपण हे करत नाही आणि सरकारला दोष देतो की सरकार लक्ष देत नाही. सरकारला दोष देण्यापेक्षा आपणच काळजी घेतली पाहिजे की तिथे कोणत्याही प्रकारची नासधूस आणि पर्यावरणाचा ऱ्हास होणार नाही.

अशी आज अनेक उदाहरणे आपल्यासमोर आहेत. सण- उत्सव साजरे करायच्या नावाखाली पैशांचा बाजार चालू आहे आणि आता हे कुठेतरी थांबलच पाहिजे. आणि ही सुरूवात आपल्यापासूनच झाली पाहिजे. तरुण पिढीचे सुद्धा हे एक कर्तव्य आहे. भारतीय संस्कृती ही जगातल्या संस्कृतींपैकी एक प्राचीन आणि महत्त्वपूर्ण संस्कृती आहे. तिचं जतन करणं, हे आपले कर्तव्य आहे.

जसं इतर प्रदूषण थांबवण्यासाठी जागतिक पातळीवर प्रयत्न चालू आहेत, तसंच सांस्कृतिक प्रदूषण थांबवण्यासाठी सुद्धा प्रयत्न केले पाहिजे. तरच तिचे प्रदूषण थांबेल आणि आपल्या संस्कृतीचा विकास होईल.

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### ABOUT THE DEPARTMENT

Department of Computer Engineering is the largest and most research strong department of its kind in Mumbai University. The Department was established in 2014 and currently offers a B.E in Computer Engineering. The department boasts a vibrant student body and a stellar faculty team of qualified and experienced professors. The Department has developed many state-of-art, fully air-conditioned laboratories with more than 200 desktop computers in various fields of Computer Engineering such as High Performance Computing, Web Technologies, Cloud Computing, Software Engineering etc. thereby providing ample facilities for project development and research. The department has tie up with CSI and maintains close relationship with industries of repute. The department takes immense interest in conducting professional activities such as organizing workshops, seminars and expert lectures to meet the challenges in the IT industry. Our results are constantly on the upward trajectory and the phenomenal growth of the department is attributed to the winning combination of dedicated and experienced faculty, brilliant students and strong administrative support from the institute.

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