



ComPulse

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A Newsletter of Department of Computer Science and Engineering, VNIT, Nagpur.

From HOD's Desk...



I am very happy to present the newsletter of the Department of Computer Science and Engineering, VNIT, Nagpur.

Since the publishing of the previous newsletter in February 2020, the country entered into a difficult phase due to Covid-19 pandemic. After the lockdown in March 2020, all the courses were taught using the online mode. The examination of the final year was conducted online. Prof. Ravindra Keskar and Prof. Manish Kurhekar contributed in the institute central committee to come out with guidelines to conduct the online exam. The department thanks all the faculty members and specially the students for their cooperation during these difficult times. The coming semester will also be conducted online. The department requests cooperation from all concerned for that.

The department is very happy to welcome two new faculty members, Dr. Swati Jaiswal and Dr. Anshul Agarawal, who have joined the department in May 2020. I am sure that the department will flourish with their contributions. The students will have the opportunity to learn courses and perform research activities under their mentorship. In this period, one patent has been granted jointly to Dr. Shital Raut and Prof. S. R. Sathe. Some faculty members of the department were invited to deliver guest lectures online in various organizations. Six candidates had their Ph.D. viva-voce examination.

The editorial team of the department has worked very hard for bringing out this newsletter. I congratulate and thank them for all their effort.

LIST OF FACULTY MEMBERS

Dr. U. A. Deshpande
Dr. P. S. Deshpande
Dr. S. R. Sathe
Dr. R. B. Keskar
Dr. M. P. Kurhekar
Dr. A. S. Mokhade
Dr. Ashish Tiwari
Dr. Praveen Kumar
Dr. S. Taqi Ali
Dr. Meera Dhabu
Dr. S. A. Raut
Dr. D. D. Shrimankar
Dr. P. A. Sharma
Dr. Mansi Radke
Dr. Anshul Agarwal
Dr. Swati Jaiswal
Mrs. M. R. Pimple

GUEST LECTURES BY FACULTY MEMBERS

1. Dr. R. B. Keskar delivered a lecture on "Machine Learning, AI and Industry-Institute-Interaction" on 3rd Feb. 2020, in DTE sponsored one week Faculty Development Program on "Industry Institute Interaction to Enhance Quality of Technical Education" during 3-7 February 2020 organized by GCOE, Amravati.
2. Dr. Syed Taqi Ali delivered an expert talk on the topic "Hyperelliptic Curve Cryptography" in DRDO sponsored Faculty Development Program on Cyber Security and Forensic, during 17-18 Feb 2020 at Department of CSIT, MANUU, Hyderabad.
3. Dr. U. A. Deshpande delivered a webinar on "Agent Design Techniques for Artificial Intelligence" at Faculty Development Program on Artificial Intelligence organized by Rasoni Group of Institutions on 21st May 2020.
4. Dr. S. A. Raut delivered an expert lecture, "ICT for Education System", in STTP on 'Interdisciplinary Research Methodology Applications of ICT and Innovations', on 23rd June 2020
5. Dr. U. A. Deshpande has given a webinar on "Local Search Techniques for Optimization" at a FDP (Faculty Development Program) titled "Post Pandemic Scenario Building using Artificial Intelligence and Optimization Techniques" (PPSB-AIMLOT-2020) organised by KDK college of Engineering, Nagpur on 11th July 2020
6. Dr. M. P. Kurhekar delivered a talk in a Online Faculty Development Program on Post Pandemic Scenario Building using Artificial Intelligence, Machine Learning and Optimization Techniques. This was organized by KDK College of Engineering, Nagpur, on Monday 13th July 2020. The topic was "Simulation of complex events: A Case study of Covid Simulations".

Ongoing Consultancy Work :

S. No.	Item and Organization	Amount	Principal Investigators	Duration
1	Review and Guidance in Algorithms and Models in Machine Learning, Neewee, Bangalore	4.72 Lakhs	Dr. R. B. Keskar	1 year (January 2020 - January 2021)
2.	Software Development and Overseeing for admission procedure, MAFSU, Nagpur	11.21 Lakhs	Dr. U. A. Deshpande Dr. M. P. Kurhekar Dr. R. B. Keskar	July - December 2020

New R & D Project Granted :

S. No.	Item and Organization	Amount	Investigator (s)	Duration
1.	Developing Framework for Heat Vulnerability Mapping and Model Heat Action Plan for India Cities, National Disaster Management Agency (NDMA)	46.94 Lakhs	Dr. R. B. Keskar Co- Investigator Dr. R. S. Kotharkar (Arch.) PI	3 years (2020-2023)

Ph.D's awarded from February 2020 to 15th July

Name of the Candidate	Topic	Supervisor
Mr. Ankush Maind	Mining condition -specific hub genes from microarray and rna-seq data using biclustering algorithm	Dr. S. A. Raut
Mr. Umesh Balande	Firefly Algorithm for Constrained Optimization Problems	Dr. D. D. Shrimankar
Ms. Parnika Paranjape	Classification of Multivariate Data Using Graph-Based and Shape-Based Features	Dr. Meera Dhabu
Mr. Nitesh Funde	Starvation Free Optimal Energy Scheduling and Data Analytics Techniques for Smart Energy System	Dr. Meera Dhabu
Ms. Abishi Choudhury	Resource Management in Internet on Things Ecosystem	Dr. S. A. Raut
Mr. Atul Thakare	Database management system improvement using data mining techniques	Dr. P. S. Deshpande

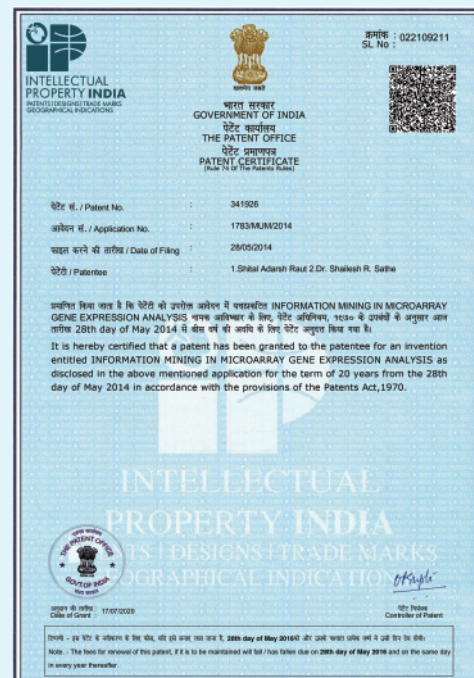
FACULTY ACHIEVEMENT

WORKSHOP ATTENDED BY FACULTY MEMBERS

Dr. S. T. Ali attended two weeks course on "Digital Transformation in Teaching Learning Process" From 6th April to 22nd April, 2020. Course was conducted by IIT Bombay through Swayam online education and is funded by TEQIP-III.

PATENT GRANTED

A patent has been granted to Dr. Shital A. Raut and Dr. S. R. Sathe for an invention entitled "INFORMATION MINING IN MICROARRAY GENE EXPRESSION ANALYSIS"



STUDENTS ACHIEVEMENTS



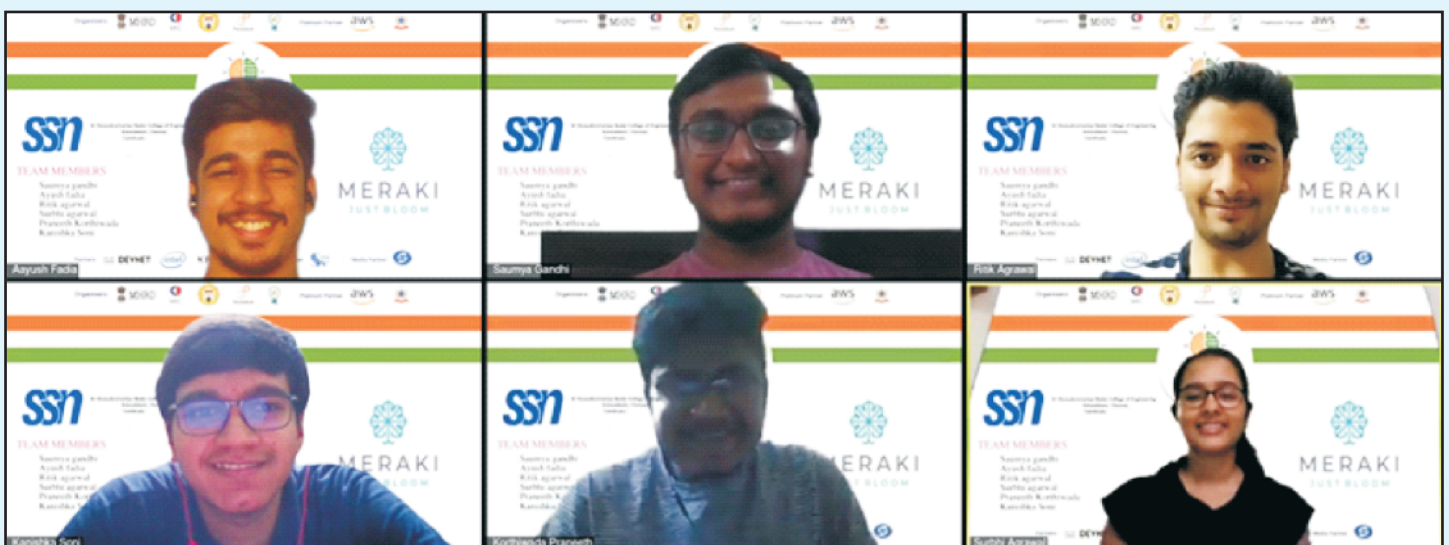
- 1) Computer Science and Engineering Department won ADHIRAJYA (INSTITUTE GATHERING TROPHY) (2020) by Securing 1st Postion and also won enthu trophy

2) Smart India Hackathon 2020

Smart India Hackathon is the world's biggest Open Innovation Model for innovators and entrepreneurs of tomorrow to start today towards a smarter India. Smart India Hackathon (SIH) is a nationwide competition organized by MHRD, inviting students to come up with innovative solutions to real-world problems. As SIH 2020 required institutes to hold an internal hackathon for both software and hardware rounds, ACM Club of CSE students at VNIT in collaboration with IEEE VNIT hosted the SIH 2020 Preliminary Round in January 2020. Out of the 27 teams that participated, 10 teams (7 software, 3 hardware) were submitted on behalf of VNIT. The entire process of selection was held starting from mid-December, leading up to January end. Yash Kumar of 3rd year CSE coordinated the activities for the internal hackathon. Mr. Kartik Vyas (Infocepts) and Mr. Dhaniram Kshirsagar (Persistent Systems) were the judges for the software round whereas Prof A.S. Gandhi (ECE) and Dr. Pradyumn Chaturvedi (EEE) were the judges for the hardware round.



Out of 7 teams selected for software edition, 4 teams were selected for the grand finale of Smart India Hackathon held during 1st August 2020 to 3rd August 2020. Out of these four teams, three teams consisted of CSE students. Team Bitwise consisted of all final year CSE students Chaitya Cheda, Ayush Singh, Deval Mudia, Shalaka Patankar, Ritwik Deshpande and Kapil Suryawanshee mentored by Dr. Manish Kurhekar. Team Meraki consisted of all second year CSE students Saumya Gandhi,, Aayush Fadia, Praneeth Korthiwada, Ritik Agarwal, Surbhi Agarwal and Kanishka Soni. The third team Team Kerberos consisted of 4 CSE students, Shashwat Kadam, Jeevan Pant, Snigdha Kadam and Shalaka Gedam mentored by Dr. Ravindra Keskar. The 4th Team IV Labs was mentored by Dr. Praveen Kumar of CSE deptt. Out of the four teams, Team Meraki and Team IV Labs won their independent rounds of SIH finals and were declared a cash prize of Rs. 1,00,000/- for each team. Dr. Ravindra Keskar was the Single Point of Contact (SPOC) for the whole SIH activity.



3) Introduction to Google Summer of Code 2020

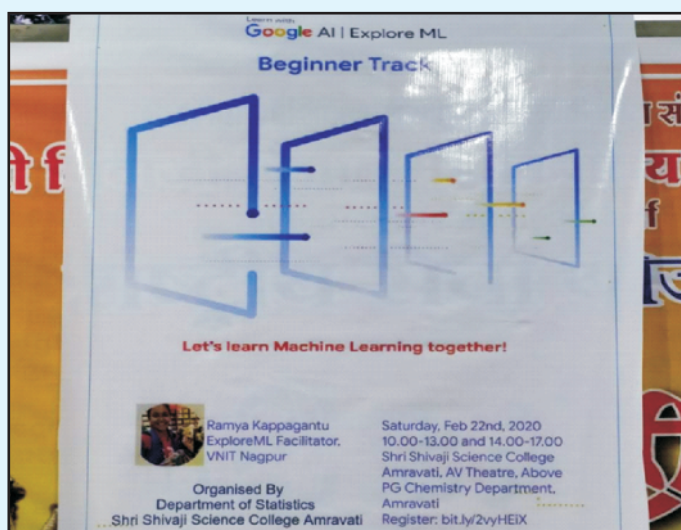
An introductory session on Google Summer of Code (GSoC) was organized on 19th February 2020 to spread awareness regarding the internationally acclaimed competition and the open-source development culture. Participants of the previous GSoC editions were invited to provide insights into the application procedure, the organizations, and their experience as a member of GSoC.



4) Explore ML (January - February 2020) :

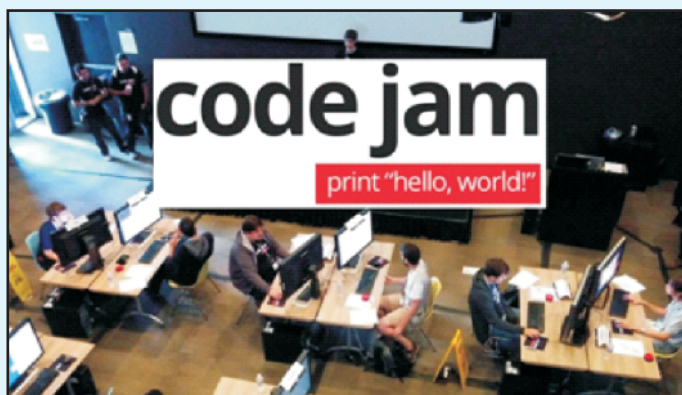
Explore ML is a Google sponsored program for university students to get started with Machine Learning. The curriculum offers 3 tracks (Beginner, Intermediate, Advanced) and relies on Explore ML facilitators to facilitate the students with the content. As a part of the curriculum, Ramya Sanjana Kappagantu of final year CSE (who is also Google DSC ambassador) hosted the Beginner Track on 18th and 19th January at VNIT Nagpur, which covered some interesting sections on Machine Learning including, Introduction to ML, Types/History of ML., privacy issues, Neural Networks, open source and Google platforms. No of participants: 25

Ramya Sanjana was also invited by Shivaji Science College, Amravati in February 2020 as #ExploreML expert to conduct sessions.



5) Google CODE JAM

Code jam is the annual coding competition held by Google it consists of 5 round ie qualification round, round 1,2,3 and world finals. Each round is of 3 hrs and has 3-5 questions each usually consists of algorithmic questions. Rishabh Agarwal qualified for code jam round 2 with rank of 1107



- 6) **Code for Good** is a hackathon for social good organizations that run in multiple locations around the world by JP MORGAN Participants get the unique opportunity to meet technologists and learn about starting their tech career here. More than 200 of India's top technology students turned out for two of "Code for Good" events held in Mumbai and Bangalore Organized by our Technology for Social Good team, the 24-hour coding challenges are staffed by hundreds of JPMorgan Chase volunteers to benefit local and global change-making organizations from the surrounding communities. Twelve students from second year got selected for Samruddhi Pande, Jyothirmai, Aayush Fadia, Yaswanth Talapanti, R. Sonal, Shreya Sahni, Kaustubh Wankhede, Sanchita Kasat, Diplesh Mankape, Dhruv Sharma, Ashutosh Murkute, VAMSI.
- 7) Total 68 students got selected for internship in various companies. Due to COVID-19 some internships were cancelled and 58 students completed the internship successfully.
- 8) Hrushikesh Vazurkar cracked Hack-a-thon(online) and interview conducted by Lowe's and received an offer from the company for full time employment.



9) IIT BOMBAY I-HACK 2020

I-Hack was a software hackathon organised by e-Cell, IIT Bombay in February 2020. It consisted of an initial resume based screening round, followed by a single on-site round that lasted for 30 hours. Our team "Wingwomen" secured the second runners up position with a cash prize of INR 20,000.

The problem statement was given on the spot by 'Here Technologies', a Netherlands based company that provides mapping and location based data through their rich collection of APIs. As a part of the hackathon, team was required to build a working solution model for electric vehicles using their APIs. Team chose to design a software system for electric cabs wherein our goal was to reduce the travel time of passengers in cases where the cab they are travelling in needs to reroute in case of shortage of charge. The framework used was Django. Overall, it was an enriching and fulfilling experience as it involved curating an idea, implementing it using third party APIs and presenting the work to a panel of 10 members in a span of 30 hours.

The team consisted of Sanjana Kothari and Saanika Kulkarni.



Saanika and Sanjana presenting their solution to the panel



Sanjana collecting the prize money for second runner up position



(Later) the team was interviewed about their experience

10) Sports achievements by students

- 1) Mr. Kadali Hari Krishna from 3rd year & Mr. Raman Raya & Nisarg Gogate from 2nd year have participated in 6th Inter NIT Vollyball boys competition.
- 2) Ms. Prachi Kalantri has participated in 7th Inter NIT Swimming Team and Won following medals.
 - 1) Silver in 50m breast stroke
 - 2) Silver in 100m breast stroke
 - 3) Silver in 50x4m mixed free style relay
 - 4) Gold in 50x4m mixed medley relay
- 3) Mr. G. Madhan Mohan Reddy has participated in 4th Inter NIT Kabaddi Bosy.
- 4) Mr. Sagar Madhudiya has participated in 3rd Inter NIT Athletics Team
- 5) Mr. Mihir Deshpande and Vinayak Choukse & team stood 4th position in Inter NIT Tennis
- 6) Mr. Ashwin Dutta and Sanchita Kasat has participated in Inter NIT Yoga Team

CSE Department Council, ACM Committee and Student Mentors (2020-21)

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2020-21

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JAY PURI COSWAMI TNP	MEGHA VERMA TNP	ABHYYADEEP LITERARY SECRETARY	

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DEPARTMENT
ACM COMMITTEE 2020-21

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SHASHWAT KHARE CLUB MANAGER	RISHAB AGARWAL SECRETARY	AMIT MOHARIL SECRETARY	ABHISHEK JAISWAL PROJECT HEAD

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NATIONAL INSTITUTE OF TECHNOLOGY
MADRAS

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