



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.

This edition includes a special event, in which the Alumni of 1993 batch contributed to setup a Machine Learning Lab in the Department. The Lab was inaugurated by the Director, Prof. P. M. Padole on August 16, 2019 in the presence of Mr. Shashikant Chaudhari, Chairman of VNIT Nagpur Alumni Association. Five alumni, Manish Sinha, Arun Menon, Guru Prasad, Prakhar Nashine, and Chetan Hirurkar, visited the department on this occasion. They had interactions with the students in which they advised the students regarding career planning.

Various workshops, short term courses and guest lectures were organized in the department. The placement season started with very good results and about 50 students were placed in dream companies in the first week itself. About 25 students were given pre-placement offer based on their performance in the summer internships. Almost all the eligible students have been placed till date. Moreover, about 60 students from the third year have been selected for summer internships.

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

LIST OF FACULTY MEMBERS

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

STTP ORGANISED INFORMATION RETRIEVAL (IR) AND MACHINE LEARNING FOR IR (17TH TO 21ST JUNE 2019)

This short-term course introduced the concepts involved in the design and implementation of search engines. It touched upon the various challenges in information retrieval and then focused on use of machine learning to address those. Search engines are integral part of our everyday life. Since human activities heavily revolve around the internet, it is of interest to understand what all goes behind the design and implementation of search engines. Information is available on the internet in the form of text, audio, video, images and in various formats. To extract useful data from this sea of information is of keen interest. This short-term training program was aimed at enabling the participants to understand various aspects of search engines and the design decisions that go behind it and we hope we could throw some light on those aspects.

The workshop began with an inauguration ceremony which was presided over by our respected Director Dr. Pramod Padole. Also, we had on the dias Prof Peshwe who was in-charge TEQIP office on 17th June on behalf of Prof. Mohan Aware who is the in-charge of TEQIP office for the institute. H.O.D. of the computer science and engineering department, Dr. U. A. Deshpande, opened the ceremony with his introduction about the workshop and emphasizing on its importance and relevance. It was then followed by a short speech by Peshwe sir. Finally our Director addressed the crowd and said few words of advice and guided the audience. Dr. Mansi Radke presented a course overview following which Dr. R. B. Keskar explained the prerequisites for the workshop and expectations from the participants were stated.

The sessions were taken by Dr. Maya Ramanath from IIT, Delhi, Dr. Maunendra Dasarkar from IIT, Hyderabad, Kartik Vyas from Persistent Systems, Nagpur, Dr. U. A. Deshpande, Dr. Mansi A. Radke and Dr. R. B. Keskar from VNIT. The vote of thanks were given by Dr. R. B. Keskar.



STTP on Information Retrieval (IR) and Machine learning for IR

WORKSHOP ORGANISED MACHINE LEARNING TECHNIQUES FOR TIME SERIES DATA ANALYSIS INCLUDING APPLICATION OVER STOCK MARKET DATA

This short-term course introduced the concepts involved in the design and implementation of python scripts for stock market trading. The first objective of the workshop was to provide knowledge and skill required for investing or trading in the stock market. Because of the digitization of stock exchanges, it is now possible to allow automated algorithms to perform trading actions that automate your trades and in turn, reduces the influence of human emotional factor. The next objective of the workshop was to train the participant on machine learning and algorithmic trading using the python programming language. It touched upon the various challenges in stock market trading and then focused on use of machine learning to address those. This short-term training program was aimed at enabling the participants to understand various aspects of stock markets.



Participants at the workshop

NEW INFRASTRUCTURE ADDED MACHINE LEARNING LAB

In gratitude to their alma mater, the alumni of the Department of Computer Science and Engineering (CSE) of Visvesvaraya National Institute of Technology (VNIT), Nagpur have donated two GPU based servers to help setup the Machine Learning Laboratory. Alumni of the 1993 batch decided to initiate this project of setting up the Machine Learning Lab in CSE Dept when they visited VNIT to celebrate the silver jubilee year of their graduation. VNIT Alumni Association helped the 1993 batch members in the procurement process.

Machine learning has become an important component in the design and implementation of an intelligent system, since a lot of data is available for training various learning algorithms. The machine learning lab that has been set up at VNIT will be utilized for implementing various machine learning and deep learning algorithms for different research problems like computer vision, image processing, speech recognition, predictive analytics, etc. For these problems, high-end computation power is required to train the intelligent system. These servers, which are of the latest configuration, will drastically reduce the training time required for implementing these learning

algorithms. The lab facility will be very useful for the faculty, research scholars, masters and undergraduate students for performing experimentation in these niche areas and will help them in publishing in reputed journals and conference proceedings. The servers are accessible over the institute local area network and these can be accessed by any faculty or student from anywhere in the institute.

The machine learning lab was inaugurated on Friday, August 16, 2019 by Prof. P. M. Padole, Director VNIT, Nagpur in the presence of Mr. Shashikant Chaudhary, Chairman of VNIT Nagpur Alumni Association. Alumni of the 1993 batch came to VNIT from different parts of the country for this inauguration function.



Inauguration of Machine Learning Lab.

MOU SIGNED BETWEEN VNIT & PERSISTENT SYSTEMS LTD.

Memorandum of Understanding (MoU) was signed between VNIT and Persistent Systems Ltd. on 24th October 2019. Both the organizations are already working together on different academic and co-curricular activities since last 10 years as part of the MoUs signed earlier.



MOU signed between VNIT and Persistent Systems Pvt. Ltd.

Renewal of the MoU was done as per the newly approved format and the required papers were signed by Prof. P. M. Padole, Director VNIT and Mr. Sameer Bendre, Chief People's Officer, Persistent Systems Ltd. Dr. Ravindra Keskar is the coordinator from VNIT and Mr. Vinit Kapoor is the coordinator from PSL, for the execution of MoU. The duration of MoU is 3 years, i.e. from 24th October 2019 to 23rd September 2022.

GUEST LECTURES DELIVERED / ATTENDED BY FACULTY

1. Dr. S. A. Raut delivered expert lecture on "Process Synchronization" at Department of Computer Science & Engineering, Government College of Engineering, Nagpur on 25th March 2019.
2. Dr. S. A. Raut attended Faculty Development Program on "Machine Learning with Business applications" 20th - 25th May, 2019
3. Four lectures each on Machine Learning and Neural Networks were delivered by Dr. R. B. Keskar, Artificial Intelligence by U. A. Deshpande, "Hidden Markov Models" by M. P. Kurhekar at a workshop on AI for Manufacturing Processes, at National Academy of Defense Production (NADP), Ordnance Factory campus, Nagpur from 26th - 28th June 2019
4. Dr. M. P. Kurhekar organized a Two Days Workshop On "Machine Learning Techniques for Time Series Data Analysis including Application over Stock Market Data" from 30th Aug - 31th Aug 2019.
5. Four lectures each on Machine Learning and Neural Networks were delivered by Dr. R. B. Keskar, Artificial Intelligence by U. A. Deshpande, "Hidden Markov Models" by M. P. Kurhekar at a workshop on AI for Manufacturing Processes, at National Academy of Defense Production (NADP), Ordnance Factory campus, Nagpur from 11th - 13th September 2019

GUEST LECTURES ORGANISED BY THE DEPARTMENT

1. Expert lecture by Mr. Kumar Subramanian , Vice President ABB Digital, Finland regarding Machine learning applications in power sector on 29th August 2019.



Expert lecture by Dr. Satyam

2. Mrs. Pragati Gokhale, Advisor, Rajeev Gandhi Science & Technology commission delivered an awareness session amongst faculty regarding funding opportunities for sponsored projects on 18th Sept. 2019.
3. Dr. Satyam, expert in Artificial Intelligence from USA interacted with MTech and PhD students on 11th October 2019. He implored students to take a higher level overview for the set of real life problems that can be solved using AI. He also stressed on the management issues which are encountered and need to be aware of by organizations and research scholars while solving such problems.

Consultancy

Dr. M. M. Dhabu

1. State of the art Smart Classroom Technology and IT Infrastructure for Chandrapur Forest Academy of Administration, Development & Management, Chandrapur
2. Designing Meter data Acquisition System for Automatic Meter Record to perform deviation settlement for Maharashtra State Transmission Company Limited(Mumbai).

STUDENT'S ACHIEVEMENT

1. Sonu Kumar (3rd year Computer Science and Engineering) has achieved silver medal in body building and silver medal in power lifting in Inter NIT power sports.
2. Hardik Gandhi (3rd year Computer Science and Engineering) and Vaibhav Popat (3rd year Computer Science and Engineering) went Inter NIT Conclave for hackathon.
3. Shikha Gupta (3rd year Computer Science and Engineering) Radhika Poddar (3rd year Computer Science and Engineering) Shruti Wadhekar (3rd year Computer Science and Engineering) got selected in 1st round of Phillips Code to Care hackathon challenge.
4. Mr. Ashwin Datta, student of Final year B. Tech. CSE was captain for Inter NIT yoga competition.

SUMMER RESEARCH INTERNSHIP UNDER THE "DIRECT PH.D PROGRAMME" AT IIT-MADRAS

3 students Mr. Saish Jaiswal, Ms. Neha Kuntewar and Mr. Adwait Parsodkar, all from 3rd year got an opportunity to work under Summer Research Internship at IIT, Madras.

Saish Jaiswal worked under the guidance of Dr. Hema Murthy on 2 projects

1) Analysis of temporal syllable structure in speech-input induced EEG:

Clinical applicability of electroencephalography (EEG) is well established, however the use of EEG as a choice for constructing brain computer interfaces to develop communication platforms is relatively recent. To provide a more natural means of communication, there is an increasing focus on bringing together speech and EEG signal

processing. Quantifying the way our brain processes speech is one way of approaching the problem of speech recognition using brain waves. In this project, I have analysed the feasibility of recognizing syllable level units by studying the temporal structure of speech reflected in the EEG signals.

2) UBM-GMM based approach for speaker identification:

Speaker recognition task is generally classified into speaker identification and speaker verification. Speaker identification is the process of determining the speaker's identity in an utterance from a given set of speakers. This project is being implemented. I explored the mathematics behind the Gaussian Mixture Model (GMM) and the Universal Background Model (UBM) and how they can be used for speaker identification process.

Neha worked under the guidance of Dr. Jaya Lal Sarma on "Separating words problem" in the field of Algorithms and Complexity theory. The brief about the projects is :

Given any two distinct strings there is a finite automaton which accepts one but not the other and has a number of states much lesser than the length of either string. This is the "separating words" problem. This problem is of fundamental interest because of its usefulness in compression and computational problems. The harder case occurs when the strings are of equal length. The question of how much we can reduce the gap between the best established upper and lower bounds so far still remains an open problem in the field.

Adwait Parsodkar worked on learning several concepts in Machine Learning, Neural Networks and Text Mining.



Mr. Saish Jaiswal



Ms. Neha Kuntewar



Mr. Adwait Parsodkar

STUDENTS QUALIFIED IN CAT

1. Dhawal Renge
2. Rashi Laddha
3. Arusha Kelkar

STUDENTS QUALIFIED IN GRE

1. Ms. Arusha Kelkar joined University of Columbia for MS program.

STUDENTS QUALIFIED IN GATE

S.N.	Name	S.N.	Name
1	RENUKA SATISH KULKARNI	7	GUDIPATI NAGA SRILEKHA
2	AGRAWAL ANANYA MANOJ	8	GOPISETTI VANAJA
3	ATHARVA SANJAY PARWATKAR	9	NAGARKAR SHARVIL VINOD
4	NOMULA PRABHU VIKAS	10	PRAGATI CHOUGULA
5	RASHI LADDHA	11	MEGHANA ANVEKAR
6	BANDA ANUDEEP REDDY	12	ABHISHEK GAUTAM

S.N.	Name	S.N.	Name
13	ANISH KELKAR	29	DASARI SRI VENKATA SAI SUMAN
14	BANTE MITALI KOMALPRASAD	30	MAMIDI DIVYA SAI VYSHNAVI
15	BACHU MANISHA	31	UTTUMADATHIL SAYOOJ SURENDRAN
16	ADITYA DESHPANDE	32	MEGHNA BHAVE
17	SHASHANK VENKATESH HEGDE	33	NAIKVADI HEMANTH KUMAR
18	Y VENKATA SAI MANIKANTA	34	HEMANT NAIKWADI
19	VANKADARA NITYA SREE	35	GUDALA PRATHISH
20	AMRUTA DESHPANDE	36	SAURABH SIDDHARTHA BAGADE
21	SHRUJAL RAUT	38	VUPPU SREEJA
22	ANUSHREE VINAYAK DESHPANDE	39	ITHA RAMA SAI ANUDEEP
23	AHER MANGESH BAL	40	KALIKIVAYA RENUSREE
24	NEMURI PAVANI	41	VUPPULURI V SURYA NAGA MANOJ SREE HARSHA
25	KOTHAWALE KAUSTUBH ANIL	42	YALAMANCHILI SAI SANDEEP
26	SHUBHAM VIJAY	43	SHIVANI SAJJAN
27	RAVVA PHANESH	44	VAMSI VUDATALA
28	MAVILLA MOUNISH	45	MOHOD SAMIKSHA TRISHARAN
		46	RUCHIKA SATISH ASHTANKAR

PH.D. AWARDED

Name of the Candidate	Topic	Supervisor
Richa Makhijani	Computational Evaluation of Gene Expression and Protein-Protein Interaction Data to Characterize Significant disease Markers in Breast, Lung and Prostate Cancer	Dr. S. A. Raut
Nileshchandra Kalbarao Pikle	Parallelization of Finite Element Method On Graphics Processing Unit"	Dr. S. R. Sathe
Balu Parne	Design of Secure and efficient authentication protocols in Mobile Communication Network	Dr. N. S. Chaudhari
Krishan Kumar	Performance Enhancement of Events Detection And Summarization Models In Videos Over Cloud	Dr. Dipti Shrimankar
Shubham Gupta	Authentication and key agreement Protocols for Fourth Generation Mobile Networks	Dr. N. S. Chaudhari
Garima Singh	Conferment of secure and Efficient Authentication & Key Agreement Protocols for Upcoming Mobile Communication Technologies	Dr. D. D. Shrimankar
Rohit Pachlor	Low maintenance clustering for Energy Efficient Communication in Sensor Networks	Dr. D. D. Shrimankar



Mr. Ashwin Datta at Inter –NIT Yoga Competition



Cloud Study JAM Workshop



Developer Student Club Summit – 2019



Sonu Kumar receiving silver medal in body building at Inter NIT power sports



Students selected for Internship

HINDI PAKHWADA



Mr. Avinash Keskar awarded in Hindi Pakhwada



Dr. R. B. Keskar awarded in Hindi Pakhwada



Our Dept. won the prize for Hindi Implementation

FINAL YEAR STUDENT'S PLACEMENT

Ajmeera Akhil Naik
 Akhil Vitthal Kabra
 Aleena Saleem
 Aniket Ramesh Mali
 Animish Sudesh Shendre
 Asanabada Hrisheek Kumar
 Ashwin Dutta
 Ajay Suryakant Avaghade
 Badhri Uday Sampath
 Bhumesh Jagdish Bhojar
 Bunari Pranay
 Burhanuddin Shabbir Pirwala
 Chaitya Chheda
 Chinthireddy Savanth Reddy
 Saket Anant Chopade
 Devendra Kumar
 Divya Rani
 Dolly Shyam
 Deekshith Etyala
 Febin Thomas
 Sathish Reddy Gathpa
 Gathadi Gundu Manasi
 Manasa Gattu
 Shalaka Gedam
 Uday H
 Jeevant Pant
 Jonnalagadda Kavya Sree
 Joshua Reynolds Pappu Raj
 Kadali Hari Krishna
 Kalyani Raju Ingle
 Kamble Devashish Dinesh
 Kappagantu Venkata Naga Sri Ramya Sanjana
 Kasireddi Hemavarshini
 Janhvi Khante

Lowes
 Philips
 Credit Suisse
 Persistent
 Wipro
 John Deere
 Deloitte

 Lowes
 Philips
 Fractal Analytics
 Morgan Stanley
 Sling Media
 Oracle
 Jpmc
 Mastercard
 Nice Software
 Cgi
 Cgi
 Mastercard
 Goldman Sachs
 Fidelity
 Appdynamics
 Philips
 Fidelity
 Edgeverve
 Citi Bank
 Edgeverve
 Lnt Infotech
 Fidelity
 Oracle
 Societe Generale
 Mastercard

Koride Eshwar
 Sanjana Kothari
 Kshitij Shahade
 Saanika Madhav Kulkarni
 Kummari Santhosh Kumar
 Kunja Priyanka
 K S Sai Sruti
 Kurma Sai Priyatham
 M Vishnu
 Mahendra Kumar Prajapati
 Mallu Sahithi Reddy
 Abdul Sattar Moh Ashraf Mapara
 Mathireddy Rishabh Reddy
 Shivam Pradeep Mishra
 Mohit Rathi
 Mondhi Veera Venkata Nagendra Harish
 Apoorva Mothey
 Deval Mudia
 Mudragada Aditya Sriram
 Muskudi Monika
 Nishanth Korupolu
 Rucha Patil
 Snigdha Sandeep Patil
 Pavan Kumar Geddapu
 Pritam Kumar Sahoo
 Raghupatruni Tejaswi Sai
 Saurabhsingh Rajput
 Sidhdi Renge
 Richa Mishra
 Ritwik Deshpande
 Rohan Nitin Gawande
 Shubham Ashok Rokde
 Sadneya Pusalkar
 Rohan Charudatt Salvi

Capgemini
 Wells Fargo
 Societe Generale
 Fidelity
 Appdynamics
 Publicis Sapient
 Wells Fargo
 Maq
 Maq
 Ubs
 Publicis Sapient
 Jpmc
 Lnt Infotech
 Ittiam
 Goldman Sachs
 Publicis Sapient
 Jpmc
 Goldman Sachs
 Jpmc
 Wells Fargo
 Icertis
 De Shaw
 Fidelity
 Mastercard
 Jpmc
 Publicis Sapient
 Fidelity
 Goldman Sachs
 Credit Suisse
 Jpmc
 Credit Suisse
 Edgeverve
 Credit Suisse
 Credit Suisse

Sanjana Kalinga	Ubs	Theegala Vamshi Krishna	Optum
Shalaka Shirish Patankar	Jpmc	Prashanth Reddy Tummala Palli	Sling Media
Shreyash Gajanan Sable	Wells Fargo	Ummenthala Ajay Kumar	Philips
Sneha Dharmadhikari	Oracle	Varundeep Shankar Rajaya Madari	John Deere
Kapeel Suryavanshi	Fidelity	Vibhav Shashank Deshpande	Sling Media
Shantanu Suryawanshi	Fidelity	Prasad Ratnakar Yamnurwar	Sling Media
Chetna Anil Sute	Aspect Ratio	Yash Jeewan Mahadik	Morgan Stanley
Talluri Praveen Kumar	Oracle	Ayush Singh	Lowes
Tamatam Akhileswara Reddy	Publicis Sapient	Anushka Kulkarni	Jpmc
Tanya Shastri	Iqvia		

STUDENTS ACTIVITIES

DEVELOPER STUDENT CLUBS SUMMIT 2019

Developer Student Clubs are the clubs powered by Google Developers which mainly aim to create awareness among enthusiastic students on latest technologies like Android, Cloud and Machine Learning by conducting workshops, study jams and also working together to solve the problems of local community. Ramya Kappagantu a final year CSE student was one of 200 leads who got onboarded as DSC lead in India.

DSC Summit focused on skills helpful for student leads to impact their campus/community.

DSC Summit was a 3 day event happened in The Leela, Goa from 23rd to 25th of August 2019, where we got to network with fellow DSC leads from India and about 20 Googlers, Google

Developer Experts. We also had sessions on Web, Cloud, Android and Machine

Learning from Googlers and also some insights on how to shape your career in tech through panel discussions.

CLOUD STUDY JAM

STUDY JAMS are community-run study groups for developers. This is a great opportunity to bring members together to learn something in person. These trainings will give the students a specific skill they can use for personal development or career advancement. Keeping this in view, a workshop was organised on 10th August 2019. With a Cloud Study Jam, students get to learn the fundamental tools and capabilities of Google Cloud. Attendees will receive free access to Google Online Labs called Qwiklabs, they need not register with a credit card. After the study jam, attendees can continue taking labs to earn Google Cloud badges. In our study jam, we covered "Google Cloud Platform Essentials".

ACM ACTIVITIES

1. On 22nd October an interaction with Prof Ajinkya Prabhune and Prof Gerd Moeckel from SRH University Heidelberg, Germany was arranged on Skype. Students of 2nd, 3rd and final year BTech participated in the interaction. Prof Moeckel and Prof Prabhune informed students about post graduate opportunities in Germany, specifically in SRH University Heidelberg, the course curriculum followed and future prospects. Prof U.A. Deshpande, Dr. Ratnesh Kumar, Dr. M.D. Goel were present during the interaction. Dr. R. B. Keskar conducted the proceedings. The program was arranged as part of ACM club activity.
2. A coding competition, Codathon had been organized in collaboration with IEEE VNIT Student Chapter.
3. Short coding contests for all years have been organized from time to time.
4. Introductory session of competitive coding and ACM ICPC for second year students.
5. Weekly coding sessions organized for the first year students.



DEPARTMENT'S PHOTO

Faculties / Staff with additional Responsibilities

Sr. No.	Name of the Faculty/ Staff	Additional Charge
1.	Dr. S. R. Sathe	Registrar
2.	Dr. P. S. Deshpande	Associate Dean (IT and Network)
3.	Dr. B. M. Polke	Hindi Translator
4.	Dr. M. M. Dhabu	Warden (New Girls Hostel)
5.	Dr. Ashish Tiwari	Warden (Boys Hostel)
6.	Dr. Poonam Sharma	Warden (Old Girls Hostel)

Editorial Team

Dr. U. A. Deshpande

Dr. R. B. Keskar

Dr. Poonam A. Sharma

Dr. B. M. Polke

Student Representatives

Mr. Subhrajit Banerjee

Mr. Rohan Salvi

III Year B. Tech. Computer Science

IV Year B. Tech. Computer Science



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