

Manipal Academy of Higher Education

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Faculty work

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Fall 1-1-2021

**A Half- yearly E-newsletter of the Department of Computer Science and Engineering, Manipal Institute of Technology - Jan 2021**

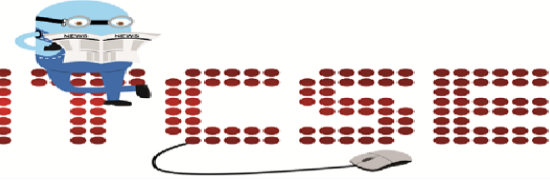
Ashalatha Nayak Dr.

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## MESSAGE FROM DEPARTMENT CHAIR



Warmest greetings and best wishes for the new year. It is my pleasure to publish the new issue of the E-newsletter. Amidst the pandemic, it has been a splendid semester for the students and faculty of CSE. The semester was bursting with AICTE sponsored STTPs, international symposium and conference, webinars by alumnus and eminent personalities, etc. I am proud to say that the team comprising of one of the department students emerged victorious in the COVID-19 hackathon organized by the Massachusetts Institute of Technology. Many faculty members have imparted their skills and knowledge to the students and research communities as resource persons for various online workshops and STTPs. I congratulate all who have been part of these activities and encourage them to continue with this trend.

- Dr. Ashalatha Nayak

### Faculty Mentor

Dr. Srikanth Prabhu

### Editor-in-Chief

Ms. Vidhya V.

### Editorial Team

1. Mr. Ashwath Rao B.
2. Mr. Govardhan Hegde
3. Ms. Rajashree Krishna
4. Mr. Bhargav Bhatkalkar
5. Ms. Priya Kamath
6. Mr. Radhakrishna Bhat
7. Ms. Richa Hinde
8. Ms. Vidya Prabhu
9. Ms. Shivani Shankar, 3<sup>rd</sup> year

## DEPARTMENT EVENTS

### AICTE SPONSORED STTP ON AGRO-TECHNOLOGY

The Department organized an AICTE sponsored online STTP on "Design of Knowledge-based Systems using Artificial Intelligence and Machine Learning models: In the context of Agricultural and Food products" during 7<sup>th</sup> to 12<sup>th</sup> September 2020 (Phase 1), 21<sup>st</sup> to 26<sup>th</sup> September 2020 (Phase 2) and 12<sup>th</sup> to 17<sup>th</sup> October 2020 (Phase 3). The eminent speakers from premier institutes and industries delivered expert lectures. The objective of the STTP is to familiarize the participants with the advanced concepts and applications of Artificial Neural Networks, Deep Learning, Machine Learning and Artificial Intelligence in the domain of agriculture. The online STTP was co-ordinated by Dr. N.V. Subba Reddy.



### WEBINAR ON NATURAL LANGUAGE PROCESSING

The Department hosted a webinar on "Introduction to Natural Language Processing and its Applications" on 14<sup>th</sup> October 2020 by Mr. Rithesh Sreenivasan, research scientist at Philips India Pvt. Ltd. The speaker detailed the fundamental concepts and highlighted the use of NLP in various medical applications. He also gave a brief insight on various natural language processing platforms and key research areas.

### INTERNATIONAL SYMPOSIUM AND CONFERENCE

The Department in association with Rotary Club Manipal, University of Phoenix, University GoGlobal and IEEE Mangalore Sub-section organized a Symposium entitled "International Symposium on Significant Pandemic Implications on Science, Technology (IOT), Humanities and Education" from 23<sup>rd</sup> to 25<sup>th</sup> November 2020. The symposium offered a variety of sessions related to implications of COVID-19 pandemic that includes healthcare management practices, organisational sustainability strategies and e-learning strategies to ensure higher levels of student engagement. The symposium was followed by an International Conference on "Teachers Inspiring Students, An Exchange of Excellence from India and USA" from 26<sup>th</sup> to 28<sup>th</sup> November 2020. This program was for school teachers from 900 schools across the country and included series of talks on skill development and online education. The online symposium and the conference were co-ordinated by Dr. Srikanth Prabhu.

### INVITED TALK BY Dr. NITHIN

The Department organized an alumni talk on "Medical Simulation and AI for Gastrointestinal Endoscopy" by Dr. Nithin Shivashankar, founder of Mimyk Medical Simulations Pvt. Ltd. on 1<sup>st</sup> October 2020. The talk provided a deep insight on Endo-MIMYK, the first true haptic simulator for endoscopic procedures and the various challenges associated with its real time simulation. The speaker also touched upon their efforts on developing AI-enabled low cost disposable endoscope.

### STUDENTS TAKE PART IN GEEKSFORGEEKS CODING EVENT

The Department in association with GeeksforGeeks organised an online coding event for students on 2<sup>nd</sup> October 2020 to fine-tune their coding skills with a vision to help them in the placement process. The subject focus being on Data Structures and Algorithms, the students who participated in this 120-minute self-paced online assessment, were given an exclusive analytical report of their performance in the test.

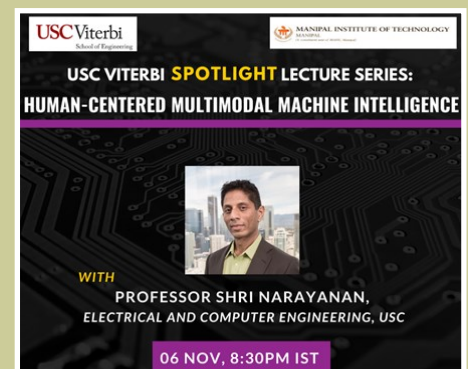


### AICTE SPONSORED ONLINE STTP

The Department organized AICTE sponsored online STTP on "Machine Learning and Deep Learning Models for Medical Domain Applications" from 5<sup>th</sup> to 10<sup>th</sup> October 2020 (Slot 1) and from 19<sup>th</sup> to 24<sup>th</sup> October 2020 (Slot 2). The main aim of the STTP was to attract the faculty and industry personnel towards the use of machine learning and deep learning based systems for medical applications. During the 6 days of the workshop, there were comprehensive discussions on the use of technology and research dedicated to the applications of machine learning and deep learning in the medical domain. The online STTP was co-ordinated by Dr. Prema. K.V.

### USC VITERBI SPOTLIGHT LECTURE SERIES

The Department in association with University of Southern California hosted USC Viterbi Spotlight Lecture Series on the topic "Human-centred Multimodal Machine Intelligence" by Dr. Shri Narayanan, Professor, University of Southern California on 6<sup>th</sup> November 2020. Dr. Shri provided an in-depth overview of three major areas in human-centred machine intelligence namely Speech Science and Clinical Applications, Behavioral Machine Intelligence and Computational Media Intelligence respectively.



# STUDENT ACHIEVEMENTS

## STUDENT TEAM WINS MIT COVID-19 CHALLENGE

The student team 'XtressCare' comprising of Mini Shail Chhabra (CSE), Ishika Gupta (ECE), Praseedha Praveen Kalbhavi (ICT), Pratyaksh Gupta and Vishesh Ghorawat (EEE) has emerged victorious in the Massachusetts Institute of Technology COVID-19 global challenge held during 6<sup>th</sup> to 8<sup>th</sup> November 2020. Their solution was aimed at developing a collaborative AI powered ecosystem that creates a working atmosphere for initiating immediate and effective communications during natural disasters.

## RESEARCH SCHOLAR WINS SPECIAL JURY MENTION

Dr. Adesh N. D. has won special mention of the jury award 2019 for his thesis titled "Design and Implementation of Efficient Techniques for Packet Scheduling and Congestion control in 4G LTE Networks". The award was issued by Board for IT Education Standards (BITES), a non-profit society constituted by Govt. of Karnataka. He has carried out his research under the guidance of Dr. Renuka A.

## HEX O'SATVA TEAM SECURES 3RD PLACE IN NATIONAL LEVEL HACKATHON

The student team 'Hex O'Satva' comprising of five students - Aditya Pradhan, Omkar Masur, Tanmay Rode, Aadi Shantanu Deshpande, and Shruti Verma secured third place in the Manipal Hackathon 2020 conducted as part of Techatva 2020 hosted by MIT, Manipal during 6<sup>th</sup> to 8<sup>th</sup> November 2020.

## STUDENT TEAM EMERGED AS FINALISTS IN THE PRISMGLANZ 2020 COMPETITION

A student team comprising of Soham Dinesh Tiwari, Arnab Mukherjee, Abhay Nayar and Ark Shankar Pandey emerged as finalists in the PRISMGLanz 2020 competition for the worklet "Unified Smart Home Resource Access". The team was mentored by Dr. Mamatha Balachandra.

## RESEARCH SCHOLAR RECEIVES BEST PAPER AWARD

Ms. Vidya Rao, research scholar supervised by Dr. Prema K.V, has bagged best paper award in IEEE DISCOVER 2020 hosted by Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal, Udupi, for the paper titled "Lightweight Authentication and Data Encryption Scheme for IoT Applications" on 31<sup>st</sup> October 2020.

## PG STUDENTS EMERGED AS SECOND RUNNER - UP IN INFINEON'S IHACK EVENT

A crew of four M.Tech students- Harshit Yadav, Shraddha Naik, Dhanushri Nayak and Shreesha Joshi has emerged as second runner-up for their project titled 'Smart Autocomplete Machine Optimised Search Assistant' in the iHack 2020 hosted by Infineon Technologies Pvt. Ltd on 23<sup>rd</sup> November 2020.

## STUDENT BAGS GOLD MEDAL IN CONVOCATION

Sahil Garg has been awarded Dr. T.M.A. Pai Gold medal for his academic excellence in the 28<sup>th</sup> e-Convocation of MAHE held on 21<sup>st</sup> November 2020.

# ALUMNI CORNER

◆ Mr. Gautam Dev (1994) has been appointed as global head – advisory & professional services at Iltantus technologies.

◆ Dr. Ravi Bapna (1993) has been conferred with the inaugural practical impacts award instituted by Information Systems Society of the Institute for Operation Research and the Management Sciences (INFORMS). Dr Ravi is presently the Chair Professor of Business Analytics and IS, Associate Dean of Executive Education, and Academic Director of the Carlson Analytics Lab at University of Minnesota, Carlson School of Management.

◆ Ms. Priya Mallya (2003) received the Zinnov award in the category of next gen women leaders. She has taken commendable initiatives in her present role of Country Leader, Developer Ecosystems at IBM.

◆ Mr. Vishal Prabhu has been appointed as the Managing Director of Deloitte.

◆ Mr. Dheeraj Reddy (2020) was the resource person for the AICTE sponsored six days online Short-Term Training Program (STTP) on "Design of Knowledge-based Systems using Artificial Intelligence and Machine Learning models: In the context of Agricultural and Food products".

# PH.D. AWARDEES

◆ Mr. Bhargav J Bhatalkar has been awarded doctoral degree by MAHE, Manipal, for his thesis titled "Detection and grading of idiopathic macular hole in color fundus images using deep learning techniques" under the guidance of Dr. Srikanth Prabhu.

◆ Mr. Dasharathraj Shetty has been awarded doctoral degree by MAHE, Manipal, for his thesis titled "Computer vision framework for post harvest quality grading of dry red chillies" under the guidance of Dr. Dinesh Acharya U.

◆ Mr. Radhakrishna Bhat has been awarded doctoral degree by VTU, Belagavi, Karnataka, for his thesis titled "A novel privacy-preserving information storage and retrieval framework applicable for BigData processing" under the guidance of Dr. N R Sunitha, SIT, Tumakuru, India.

◆ Ms. Sameena Begum Pathan has been awarded doctoral degree by MAHE, Manipal, for her thesis titled "Automated detection of melanocytes related pigmented skin lesions using image processing" under the guidance of Dr. P. C. Siddalingaswamy.

◆ Ms. Radhika Kamath has been awarded doctoral degree by MAHE, Manipal, for her thesis titled "Automatic detection and identification of weeds in paddy fields using soft computing technique and wireless sensor network" under the guidance of Dr. Mamatha Balachandra.

◆ Mr. K Rajesh Rao has been awarded doctoral degree by MAHE, Manipal, for his thesis titled "Development of secure cloud services for storing and accessing data in role based access control applications" under the guidance of Dr. Ashalatha Nayak.

◆ Mrs. P. B. Shanthi has been awarded doctoral degree by MAHE, Manipal, for her thesis titled "Cytological Image Investigation for detection of cervical cancer using soft computing techniques" under the guidance of Dr. Hareesha K.S.

# FACULTY ACHIEVEMENTS

◆ Dr. Manjunath K N was the resource person for DST sponsored webinar series on "Telemedicine and Recent Trends in Medical Image Processing" organized by Manipal University Jaipur during 28<sup>th</sup> to 29<sup>th</sup> July 2020. He organized and conducted the Conference Organizers Education workshop along with IEEE Bangalore Section and Mangalore Sub-Section and also served as a resource person. He has also served as a Session Chair in healthcare track in the International Conference IEEE DISCOVER at SMVIT, Bantakal during 30<sup>th</sup> to 31<sup>st</sup> October 2020.

◆ Mr. Siva Selvan won the Excellent Oral Presentation for his paper "Authentication and Capability-based Access Control: An Integrated Approach for IOT Environment" in the 12<sup>th</sup> International Conference on Communication Software and Networks held from 12<sup>th</sup> to 15<sup>th</sup> June 2020 at City University, London.

◆ Dr. Srikanth Prabhu was the resource person for the four day webinar on "Internet of Things, Artificial Intelligence, Machine Learning" conducted by DCA, Milagres College, Udupi from 27<sup>th</sup> to 30<sup>th</sup> July 2020. He has delivered sessions on Cyber laws and biometric solutions for the ATAL Sponsored Five Days FDP on "Cyber Security" from 9<sup>th</sup> to 13<sup>th</sup> November 2020.

◆ Mr. Ashwath Rao and Dr. Mamatha Balachandra have successfully guided their team of students to complete the Samsung PRISM R & D projects on "Automatic Code Review System" and "Unified Smart Home Resource Access" respectively.

◆ Mr. Ahamed Shafeeq was the resource person for a webinar titled "Data clustering and Bio-inspired optimization Techniques" on 11<sup>th</sup> November 2020 organised by P.A. College Of Engineering, Mangaluru.

◆ Dr. Radhakrishna Bhat has presented a webinar session titled "High performance computing - parallel programming capabilities and challenges" on 5<sup>th</sup> December 2020 hosted by Mangalam College of Engineering, Kerala.

◆ Dr. Bhargav Bhatalkar was the resource person for the AICTE sponsored STTP on "Design of Knowledge based systems using Artificial Intelligence and Machine Learning models in the context of Agriculture and Food Products" held during 7<sup>th</sup> to 12<sup>th</sup> September 2020. He has also delivered an informative session on "Design and Implementation of an Autoencoder for Medical Image Segmentation" on the 25<sup>th</sup> November 2020.

◆ Ms. Musica Supriya has delivered an informative talk on "Effective Online Class Conduction" for the faculties at Govt. First Grade college Hiriadka on 14<sup>th</sup> September 2020.

◆ Mr. Ashwath Rao B was the resource person for the AICTE sponsored STTP on "Machine Learning and Deep Learning models for medical domain applications" conducted during 5<sup>th</sup> to 10<sup>th</sup> October 2020 and 19<sup>th</sup> to 24<sup>th</sup> October 2020.

◆ Ms. Rajashree Krishna won best paper award for the paper titled "Soybean crop disease classification based on physic crop data by utilizing deep learning techniques" in the Second International Conference on Advanced Intelligence and Data Engineering hosted by NMAM Institute of Technology during 22<sup>nd</sup> to 31<sup>st</sup> October 2020.