



MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A Constituent unit of MAHE, Manipal)



AICTE Sponsored Short Term Training Program on "Machine Learning and Deep Learning Models for Medical Domain Applications", 05th – 11th October 2020 (Slot 1) and 19th – 24th October 2020 (Slot 2)
**Organized by Department of Computer Science and Engineering,
Manipal Institute of Technology, MAHE,
Manipal- 576 104, Karnataka.**

Manipal Academy of Higher Education (MAHE): MAHE is synonymous with excellence in higher education. Over 28,000 students from 57 different nations live, learn and play in the sprawling University town, nestled on a plateau in Karnataka's Udupi district. It also has nearly 2500 faculty and almost 10000 other support and service staff, who cater to the various professional institutions in health sciences, engineering, management, communication and humanities which dot the Wi-Fi-enabled campus. The University has off-campus in Mangalore and Bangalore, and off-shore campuses in Dubai (UAE) and Melaka (Malaysia). Every institute has world-class facilities and pedagogy, which are constantly reviewed and upgraded to reflect the latest trends and developments in higher education. In Manipal, these include educational facilities like the Simulation Lab, an Innovation Centre, one of Asia's largest health sciences libraries, one of the world's best anatomy museums, a Business Incubation Centre and various other centers of excellence. Academic and Research collaborations with several universities in the US, UK, Australia and other countries ensure that students get international exposure and expertise. In 2018 MAHE was awarded the status of the Institute of Eminence from MHRD, Govt. of India.

Manipal Institute of Technology (MIT): MIT established in 1957, is reckoned for its academic excellence in technical education. It offers Bachelors's, Master's, and Ph.D. programs in Engineering, Science & Humanities. It has collaborations with a large number of foreign universities. As per NIRF ranking, MIT stands at the top 1% among the engineering colleges in India.

Dept. of Computer Science and Engineering (CSE): Dept. of CSE was established in the year 1985. Over the years, the department has developed to become a center of excellence, providing in-depth technical knowledge and opportunities for innovation and research with excellent infrastructure and committed faculty members. The department has tie-up with various industries and offers courses in collaboration with them. The department has a strong research interest in diverse areas of Computer Science and offers a Ph.D. Program. Great emphasis is given on the emerging, interdisciplinary and cutting-edge areas of research besides core domain in the

department. The focus areas of research are High-Performance Computing Systems, Computer Vision, Software Engineering, Knowledge Engineering, Computer Networks & Security as well as Machine Learning.

ABOUT THE STTP

The main aim of the Short Term Training Program (STTP) is to attract the faculty and industry personnel towards the use of machine learning and deep learning-based systems for medical applications.

Deep learning, a subfield of machine learning, has seen a dramatic resurgence in the recent past, largely driven by increases in computational power and the availability of massive new datasets. The field has witnessed striking advances in the ability of machines to understand and manipulate data, including images, and speech. Healthcare stands to benefit immensely from deep learning because of the sheer volume of data being generated as well as the increasing proliferation of medical devices and digital record systems. Deep-learning systems could aid physicians by offering second opinions and flagging concerning areas in images.

The STTP facilitates a comprehensive discussion on the use of technology and research dedicated to applications of machine learning and deep learning in the medical domain. It also facilitates gaining of insight into several important topics associated with Machine Learning and deep learning, such as regression, classification and clustering models for medical applications, decision support systems, etc. Understanding the genetics of disease allows clinicians to recommend treatments and provide more accurate diagnoses, distinguish between glaucomic and non-glaucomic image patterns for diagnostic decisions, etc.

Note: The STTP will be conducted in two slots:

Slot I: 5 October to 10 October 2020

Slot II: 19 October to 24 October 2020

OBJECTIVES

- To introduce the concepts of Medical Image Processing.
- To familiarize the participants with Machine Learning, Artificial Neural Networks and Deep Learning.
- To enable the participants to use these concepts in the context of medical domain.
- To provide hands-on experience of associated tools and techniques.

RESOURCE PERSONS

Experienced faculty members and experts from IITs, IIITs, NITs, Industries, and other premier institutions will be delivering the lectures and practical sessions.

EXPECTED OUTCOME FROM THE COURSE

- To enrich the faculty with emerging technologies such as machine learning and deep learning for problem-solving in medical field.
- To facilitate participants to carry out research, register for PhD, and publish high quality research papers in reputed journals.
- To reduce the gap between academia and industry as well as enhance placement opportunities for students.

ELIGIBILITY

Faculty from AICTE approved engineering colleges/universities with teaching positions in Computer Science / Information Technology / Computer Applications / Biomedical Engineering / Electronics and Communication and other related engineering disciplines are eligible. Interested practicing engineers from industries may also apply. The number of seats is limited to 60 in each slot and selection is based on a first come first serve basis.

REGISTRATION

Please visit the below-mentioned link and complete the online registration by selecting AICTE_STTP_MLDDL2020 <https://forms.gle/zA8aXj9q4RybT4WP9>

No registration fees.

- The last date for receipt of the registration form is **30th August 2020**.
- The selected participants will be intimated through mail latest by **10th September 2020**.
- E certificates will be provided for the participants with 100% attendance and above 40% score in Assignments.

PATRONS

Dr. Ramdas M Pai, Chancellor, MAHE
Dr. H. S Ballal, Pro-Chancellor, MAHE
Lt. Gen. (Dr.) M. D. Venkatesh, Vice-Chancellor, MAHE
Dr. Narayana Sabhahit, Registrar, MAHE
Dr. D. Srikanth Rao, Director, MIT Manipal
Dr. B H V Pai, Joint Director, MIT Manipal
Dr. S. N Bhat, Associate Director, (FD & W), MIT, Manipal.

CHAIRPERSONS

Dr. Ashalatha Nayak, Head, Dept. of CSE, MIT, Manipal
Dr. Balachandra, Head, Dept. of ICT, MIT, Manipal.

COORDINATOR

Dr. Prema K. V, Professor, Dept. of CSE, MIT, Manipal.

CO-COORDINATORS

Prof. Tanuja Shailesh, Prof. Archana Praveen Kumar, & Prof. Rajashree Krishna, Dept. of CSE, MIT, Manipal.

ADDRESS FOR CORRESPONDENCE

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