Third Workshop on Machine Learning for Medical Image Analysis

The Multimedia Analytics and Systems group of the School of Computing and Electrical Engineering at IIT Mandi organised the third Workshop on Machine Learning for Medical Image Analysis (WMLMIA 2017.) The five day workshop focused on the use of machine learning for analysing microscopy images. The workshop was held between 17-21 June, 2017 at the Kamand campus, IIT Mandi.

Machine learning is an active research area, where computer algorithms “learn”, in a manner analogous to humans. Several research groups, both in academia and industry, the world over, are studying new and effective ways of utilising machine learning to automate the analysis of medical images. This has several applications, including the rapid diagnosis of large amounts of medical image data, thus helping doctors and clinicians perform faster and more accurate diagnosis. Microscopy analysis are an important modality in modern medicine, useful for diagnosing several diseases including malaria and cervical cancer.

Seven speakers, including pathologists, physicists, and engineers gave lectures. Dr Sandeep R. Mathur, professor of pathology at the All India Institute of Medical Sciences, New Delhi delivered the keynote talk. Dr. Kedar Khare from the Department of Physics at IIT Delhi explained about a phase-microscope developed by his research group. Dr. Sarita Ahlawat, also from IIT Delhi, spoke about the efforts to commercialise the above microscope, and its application to the screening of cervical cancer. Dr Sai Subrahmanyam Gorthi from the Indian Institute of Space Science and Technology Thiruvananthapuram spoke about recent research in the use of deep learning in the analysis of microscopy images. Dr Vani Ravikumar, a pathologist from R.V. Metropolis, Bangalore, discussed various clinical aspects and how automation could be useful in diagnosis. Mr K.C. Bhushan from Aindra Systems, Bangalore spoke about the company's journey developing and commercialising automatic cervical cancer screening. Dr. Amod Anandkumar from Mathworks India, demonstarted the various tools available in the Matlab (TM) computing environment for machine learning on images. Other in-house speakers covered topics ranging from the basics of machine learning, hands-on sessions in machine learning, to applications.

The workshop was attended by 50 participants from all over India, including students, research scholars and faculty.

Dr Sandeep Mathur delivering the keynote talk.

Hands-on session.


WORKSHOP ON
MACHINE
LEARNING FOR
MEDICAL
IMAGE
ANALYSIS
2017

Group photo.