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Wipro GE Healthcare, IISc set up health tech innovation lab

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This industry-academia collaboration aims to solve some of the toughest healthcare challenges using Artificial Intelligence/Machine Learning



Indian Institute of Science (IISc) and Wipro GE Healthcare have announced the inauguration of an advanced center for innovation and research at the IISc campus in Bangalore- **'WIPRO GE Healthcare - Computational and Data Sciences Collaborative Laboratory of Artificial Intelligence in Medical and Healthcare Imaging'.**

The facility, located at the Department of Computational and Data Sciences (CDS) of IISc, Bangalore, will work on the next level of healthcare diagnostics with deep learning technology, artificial intelligence and future-ready digital interfaces, to provide highly sophisticated diagnostic and medical image-reconstruction techniques and protocols for faster and better imaging.

To start with, this facility will work with over fifty students and three faculty members of IISc. The thrust of this collaborative laboratory will be to work closely with clinicians as well as Wipro GE Healthcare to integrate these computational models into clinical workflows to help doctors improve patient outcomes.

Some of the use cases that the collaboration will explore are: 1) light-weight deep learning models for classification and segmentation of COVID-19 lesions in lung ultrasound and CT images, 2) deep learning models for improving as well as classifying spectral domain optical coherence tomography images in ophthalmology, 3) deep learning based medical image reconstruction methods and 4) exploiting the structure of 3D volume data that necessitates fewer annotations, thereby reducing development time and annotation cost.

IISc will meet the infrastructural requirements for this lab including finished interiors, power backup, internet connectivity, air conditioning, etc. Wipro GE Healthcare, which is commemorating its 30 years of existence in the country, is supporting this centre with a one-time grant, as part of its CSR efforts. This grant will be used to equip this lab with the necessary hardware and software tools: state-of-the-art Deep Learning Servers, Advanced Visualization Workstation, LED Monitors and software such as Pytorch, Tensor Flow, Keras and Pycharm.

Speaking on the collaboration, **Dileep Mangsuli, Chief Technology Officer, GE Healthcare, South Asia** said, "the world healthcare is getting transformed through use of digital technologies which can enable precision health. This transformation can be accelerated by building a collaborative ecosystem of industry and academia partners. This Healthcare Innovation Lab at IISc will help bring to market unique digital solutions which will get integrated into our Edison platform and intelligent devices, helping clinicians solve some of the toughest healthcare challenges."

Prof. Phaneendra Yalavarthy, who is the convener of the collaborative lab as well as the Chair of the Office of Development and Alumni Affairs, IISc, said, "Private-Public partnership is in the DNA of IISc and this collaborative lab in the space of artificial intelligence in healthcare funded by Wipro GE Healthcare is timely, given the push for digital technologies. Translation of research work carried out in the lab into the clinic will be the priority, and there is no better industry partner in India than Wipro GE Healthcare that can accelerate this. This is only beginning of the collaboration and we are hoping to scale up the research activities in the near future."