

Five Days Faculty Development Programme on

Machine Learning and Deep Learning Techniques For VLSI

Nov 15th – 19th, 2022

About the Organisation

K L University is a pioneer in the field of engineering education and research in private sector. It was established as Koneru Lakshmaiah College of Engineering in the year 1980, situated in a spacious 60 acre campus on the banks of Buckingham canal of river Krishna, 8 Km away from Vijayawada. The institute is accredited by National Assessment and Accreditation council (NAAC) of UGC with A grade K L University has knowledge base stems with the presence of eminent and highly qualified academic staff, numbering 600+ out of which 155+ doctorates and 300+ pursuing Ph.D is one of the best for any engineering institute. KLU offers 10 UG programs, 14 PG programs, 28 Integrated degree programs, dual degree programs and in addition to this research program is been offered in 14 disciplines.

Research at KLU

KLU places special emphasis on research. DSIR of Govt. of India recognized KLU as a Scientific and Industrial Research Centre. KLU has the credit of housing world class Excellency centres to boost research in emerging areas like Nanotechnology, Robotics, Nuclear Reactor design, Automobile, Aero VLSI, fusion, Space Structures etc. In order to extend R&D and consultancy activities within the university 43 faculty research groups are functioning effectively. Funded projects of worth more than 10 Crores are sanctioned & more than 5 Crores are in pipeline, which speaks about the strength of the outsourced research at KLU.

About the Department

Department of Electronics & Communication Engineering was established in the year 1980, has grown now to be a Department with 110 Faculty members and over 2000 Under Graduate and 200 Post Graduate students and about 200 research scholars. As the largest academic Department of University, Faculty of ECE are involved in an exceptional range of Educational, Intellectual and Research activities. We have grown over the years in many directions and currently recognized as a "Premier Teaching and Research Department" of the KL University and also recognized by DST under FIST program in the year 2012. Being a FIST-DST sponsored Department, recently we purchased the 18 GHz Network Analyser, 20 GHz Spectrum Analyser and HFSS Suite etc., In addition, the department is well equipped with various laboratories catering the UG and PG Programs and other research centres in VLSI, Communication Systems, Atmospheric Sciences and MEMS.

Topics to be Covered

- ✓ Machine Learning (ML) and Deep techniques in real world
- ✓ Types of ML & DL algorithms for VLSI automation
- ✓ Un Supervised learning methods, Partitioned method, hierarchical clustering method for VLSI design automation
- ✓ Hands on implementation of supervised and unsupervised methods for structural perspective for VLSI logic implementation
- ✓ Support vector machine classification and its application for VLSI
- ✓ ML&DL based VLSI CAD tools
- ✓ Reinforcement learning, optimization and data driven method for VLSI applications
- ✓ Overview of existing ML & DL VLSI Tools
- ✓ Impact of ML & DL in VLSI
- ✓ Future advancements in ML & DL intern VLSI compatible to VLSI

Outcome of FDP

Participants can able to:

- ✓ Solve practical and state of the art Machine Learning (ML) & Deep Learning (DL) problems to serve VLSI & MEMS industries.
- ✓ Apply ML & DL design approaches to solve energy efficient VLSI Circuits and devices
- ✓ Develop ML & DL algorithms compatible with Advanced VLSI

Resource Persons

Renowned experts from premier Institutions (IIT/NITs)/IITs and Central Universities) in concerned field are invited to deliver in the Program and speakers from industries also will deliver expert lectures. The FDP is open to faculty members, research from industry and Development scholars, officials other Research organizations..

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Organized by **Microelectronics Research Group (MERG) Department of ECE**

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