SUMMER/WINTER INTERNSHIP, 2024/2025

Deep Learning Application in Healthcare (COMPUTER SCIENCE & ENGINEERING)

- Gather EEG data from subjects performing motor imagery tasks, such as imagining left-hand movement, right-hand movement, and rest periods.
- Preprocess the EEG data to remove noise, artifacts, and baseline drift.
- Segment the EEG signals into epochs corresponding to different motor imagery tasks.
- Develop deep learning models, including CNNs and RNNs, for motor imagery classification using the segmented EEG data.
- Train the models on labelled EEG data to learn discriminative features associated with different motor imagery tasks.
- Evaluate the performance of the trained models through cross-validation and testing on unseen data.

Cyber Security and Blockchain (COMPUTER SCIENCE & ENGINEERING)

- Information security, cyber security and network security.
- Designing of security protocols for Internet of Things (IoT), Internet of Intelligent Things (IoIT), Internet of Healthcare Things (IoHT), Internet of Battlefield Things (IoBT), Internet of Medical Things (IoMT), Internet of Vehicles (IoV), Internet of Drones (IoD) and Internet of Energy (IoE).
- Use of machine learning techniques in the designing of security protocols.
- Use of blockchain methods in the designing of security protocols.
- Security of various computing environments i.e., cloud computing, fog computing and edge computing.

Data Science and Cyber Application (COMPUTER SCIENCE & ENGINEERING)

- Data Science
- Business Analytics,
- Cyber physical secure system
- Statistical Inference
- FinTech
- Automation
- Creative Start-ups
- Web development (Full Stack)
- Pre-requisite: To have a good knowledge of at least 1 programming language relevant to the domain.
- The problem and method for problem solving will be provided to those who are selected.

Machine Learning/Data Science Using MATLAB (COMPUTER SCIENCE & ENGINEERING)

- Introduction to course
- Data pre-processing
- Classification Algorithms in MATLAB
- Clustering Algorithms in MATLAB
- Dimensionality Reduction
- Project: Malware Analysis

AI/ML Application (COMPUTER SCIENCE & ENGINEERING)

- Advanced ML Applications in Various Domains
- Advanced Analytics for Sports Performance:
- Graphical Neural Networks for Enhanced Data Analysis:
- Enhanced Privacy Preservation via Encryption Techniques:
- Innovative Foundation Models for Quick Learning:
- Cutting-Edge Quantum Computing Solutions:

Medical Image Fusion using Deep Learning (COMPUTER SCIENCE & ENGINEERING)

Multimodal medical image fusion using deep learning approach

Internet of Things and its Sustainable Application (COMPUTER SCIENCE & ENGINEERING)

To have hands-on experience in developing IoT applications with a focus on sustainability.
Key Learnings:

- IoT fundamentals,
- sustainable design principles,
- practical skills in building and deploying IoT solutions that address environmental and social challenges.

Deep Learning application in Healthcare (COMPUTER SCIENCE & ENGINEERING

To leverage deep learning techniques to address critical challenges in the healthcare industry. By applying advanced neural network models, we seek to enhance diagnostic accuracy, predict patient outcomes, optimize treatment plans, and contribute to medical research.

Computational Aerodynamics (AEROSPACE ENGINEERING)

Department of Aerospace Engineering of Graphic Era (Deemed to be University), Dehradun is organising a project based summer internship program in Computational Aerodynamics in offline as well as online mode. The internship program is planned focusing on research based problem statements in the domain of Aerodynamics with an agenda to have following fruitful outcomes:

1) Research Exposure
2) Hands-on experience on CFD Tool
3) Development of presentation skill
4) Experience in report/manuscript preparation
5) Publication (Scopus Conference/Journal) based on quality of outcome

Summer Internship & Vocational Training (MECHANICAL ENGINEERING)

Department of Mechanical Engineering is organising a project based Vocational Training & Summer Internship in the offline mode

This program offers an intensive 4-6 week experience, with 6 hours of daily hands-on learning. Unlock the creativity through project-based learning, including Design Thinking, 3D Modelling, Prototyping, Laser Cutting, 3D Printing, CNC Router, Patents and more. Be mentored by industry experts and gain invaluable practical knowledge.

Exploring the Silicon Highway: Pathways Perspectives in Semiconductor Technology (ELECTRONICS & COMMUNICATION ENGINEERING)

The objective of the program is to foster young minds to get the hands-on experience and exposure to job-oriented skills like VLSI Design, FPGA Design, TCAD Simulation, and Circuit Implementation, especially given the demands of the Semiconductor Industry.

By providing opportunities for active participation and experimentation, students can not only learn theoretical concepts but also develop practical skills that are essential for their future careers. Encouraging research aptitude further enhances their ability to innovate and contribute meaningfully to the field. This kind of initiative can truly assist in the holistic growth and career development of students interested in semiconductor technology.

The Internship program will comprise of:

- Live theory classes (Hybrid)
- Hands-on sessions on various EDA tools (Offline)
- Exposure to state-of-the-art industrial tools.
- Research Exposure