Gokaraju Rangaraju Institute of Engineering and Technology

[Autonomous]

Department of Computer Science and Engineering

Center of Excellence - AI and ML Lab

From the day of Dr. Robert Hecht-Nielsen, who first invented neuro computing, a lot of research is on in the area of Artificial Intelligence and Machine Learning. The demand for engineers and scientists with knowledge in Machine Learning and Artificial Intelligence is high. Machine Learning Engineer, Robotic Scientist, Data Scientist, Research Scientist, Business Intelligence Developer are certain job roles for students who excel in this field. GRIET is in the forefront to start a Center of Excellence (AI& ML Lab). The lab is being established with inputs from Academia, Corporate people, experienced experts of the field to give required confidence for the students who are undergoing this course and make them able to cater to the needs of the market.

The Objectives of AI & ML Lab:

- Acquire the basic concepts of Artificial Intelligence and Machine Learning frame work.
- Impart basic proficiency to explore and analyze real time problems using various Artificial Intelligence and Machine Learning techniques.
- Design and implement machine learning solutions for classification, regression, and clustering problems and be able to evaluate and interpret the results of the algorithms.
- Identify innovative research directions in Artificial Intelligence, Machine Learning and Big Data analytics.
- Encourage students towards internships, research paper publication and achieve better placements in Artificial Intelligence and Machine Learning domain.

Infrastructure Details

Amount invested in establishing lab	:	Rs. 9,55,800 (30 Hp Systems-1 TB Hard Disk, Intel i3 Processor purchased) Rs. 69,030 (upgradation from 4GB to 8GB RAM)

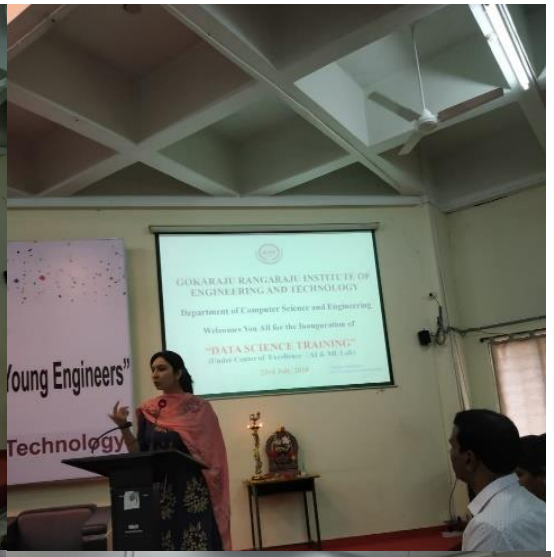
Snapshot of lab:

Activities carried out under center of Excellence AI/ML Lab:-

- **Organized Two training programs for III B.Tech CSE students**
  - Data Science Training Course
  - Big Data Analytics Training Course

Data Science Training Course

- Organized 8 weeks hands-on training program from 23rd July to 30th Sept 2019.
- In association with Xenon Stack, Chandigarh
- Intended participants, III B.Tech CSE (100 students)
- Topics covered are,
  - Supervised Learning
  - Un-supervised Learning
  - Semi-supervised Learning
  - Regression
  - Recommendation System
  - Deep Learning
  - Natural Learning Processing



Valedictory function of Data Science Course:

Big Data Analytics Course

- Organized one week hands-on training program, 18th to 22nd Feb 2019
- Speaker, Mr. Mohan, Sr.Data Scientist, Tech. Mahindra
- Intended participants, III B.Tech CSE (105 students)
- Topics covered,
  - Introduction to Big Data,
  - Hadoop File System
  - Map Reduce Programming
  - Advanced Map Reduce
  - Hive, Scoop
  - Machine Learning with Spark

➢ M.Tech student Research Papers published under Center of Excellence – AIML Lab

S.No	Name of Authors	Title of Research Paper	Journal/Conference Name &Year of Publication
1	Ch.Mallikarjuna Rao, M.Harika	Crop Yield Prediction using Neural Networks and Machine Learning	NeuroQuantology, October 2022, Volume 20,Issue 12
2	B.Kalyan, Dr.P.Chandrasekhar Reddy	Brain Tumour Detection using Convolution Neural Networks	International Conference on Reliability, Infocom technologies and Optimization, IEEE, October 2022
3	S.Venkatesh,Dr.B.Sankara Babu	A Novel approach for Detection and Counting of Vehicles using CNN architectures	International Conference on Reliability, Infocom technologies and Optimization, IEEE, October 2022
4	Dr.G.Karuna, K.Pravallika, Dr.K.Anuradha, V.Srilakshmi	Convolutional and Spiking Neural Network Models for Crop Yield Forecasting	E3S Web of Conferences, ICMED 2021
5	P.Lakshmi Sruthi, Dr.K.Butchi Raju	Prediction of the COVID-19 pandemic with Machine Learning Models	International Conference on I-SMAC, IEEE 2021
6	G. Karuna, K. Pravallika, K Madhavi, V. Srilakshmi, K. Swaraja, G. Kalpana	Novel Corona Virus Prediction and Transmission Analysis using Machine Learning Models	E3S Web of Conferences, ICMED 2021
7	P.Rahul Das, G.Karuna, V.Srilakshmi, B.Rupa	Parasite Malaria Detection Using Smart Phone Based Deep Learning Techniques	Kala Sarovar, September 2020
8	C.Komala, Dr.K.Butchi Raju	A Survey on a Nonlinear Regression Application to Machine Learning techniques for Geomagnetic Data Reconstruction Processing	E3S Web of Conferences, ICMED 2020
9	M.Manisha, Anuradha K, V. Srilakshmi	Machine Classification for Suicide Ideation Detection on Twitter	International Journal of Innovative Technology and Exploring Engineering (IJITEE), October 2019
10	C.Srihitha, Dr.A.Sai Hanuman	A Survey on Privacy Preservation Techniques for data Clustering K-Means Over Large-Scale Dataset	International Journal of Advanced Research in Computer Science, February 2018