About the Internship

The internship program is designed for understanding and implementing AI and Machine Learning (ML) techniques in different fields. The applications of these techniques are quite broad including areas of engineering, business and medicine. With the growing applications of AI/ML, it is important for engineering UG/PG students and faculty to gain a firsthand experience at implementing the AI/ML techniques on different projects. The internship will provide the participants with an in-depth understanding of various AI and Machine Learning Techniques and their programming implementation. The interns will be working on different projects that further enhance the realization of these techniques.

About MNIT

Malaviya National Institute of Technology (MNIT), Jaipur is one of the NITs established by Ministry of Human Resource Development, Government of India. The Institute, earlier known as MREC, was established in 1963 as a joint venture of the state and central Governments. Later in 2002, the college was given the status of National Institute of Technology and on August 15, 2007, proclaimed Institute of National Importance through Act of Parliament. MNIT campus spreads over 325 acres of lush green area in the prime location of Jaipur city. At present, in addition to research, consultancy and developmental activities, the Institute offers UG and PG (M. Tech./M.Sc. & Ph.D.) level courses to about 5000 students in almost all leading fields of engineering, technology, management and sciences.

Department of Electrical Engineering

The Electrical Engineering Department is one of the oldest departments at MNIT Jaipur. Currently, the department offers undergraduate courses in Electrical Engineering along with postgraduate courses in Power Systems, Power Electronics and Power System Management. The research domains of the department span over various areas of Electrical Engineering. The department continually provides collaborative opportunities with National/International Universities, resulting in a global exposure in research

Reaching MNIT

Jaipur is well connected by road, rail and air services. MNIT is situated on Jawaharlal Nehru (JLN) Marg and is about 9 kms from Main-railway station/ Central Bus Stand (Sindhi Camp) of Jaipur and 6km away from the Airport.

Coordinator

Prof. Rajesh Kumar
Department of EE, MNIT Jaipur

General Information

Accommodation and travelling expenses are to be borne by the participants. Limited accommodation on actual charges may be available at MNIT Hostels. A request for hostel accommodation will need to be made in advance. The participant will not be paid any TA/DA. The hostel charges will approximately be Rs 200/day (tentatively). It is to note that limited seats are available in the course *(25 seats)*.

Important Dates

Completed Registration Form	**09th May, 2022**
Confirmation of Selection	**10th May, 2022**
Internship Start Date	**16th May, 2022**

Address for Correspondence

Prof. Rajesh Kumar

Robotics & Machine Analytics (RAMAN) Lab
Malaviya National Institute of Technology
J. L. N. Marg, Jaipur-302017 (Rajasthan)

Email: ramanlabmnit@gmail.com

Summer Internship Program 2022

Malaviya National Institute of Technology

Machine Intelligence with Python Programming

16th May, 2022 – 15th July, 2022

Course Contents

- ❖ Python - Distributions and IDEs, Packages & Modules, Data Types Python - Variables Lists, tuples, dictionaries, Sets, Files I/O Database Handling Dictionaries, Numpy and Pandas Library for Data Processing Machine Learning Algorithms.
- ❖ Machine Learning – Regressions, Regularization Classification, Active Learning, Kernels, Support Vector Machines, Model Selection, Boosting, Margin and Complexity, Clustering, Hidden Markov Models, Bayesian Networks, Fuzzy Systems, Design and Applications.
- ❖ Natural language Processing: Text processing, Language Modelling, Word Embedding, Text Classification, Learning from Social media, Machine Translation and Deep learning for NLP.
- ❖ Neural Networks, Deep Neural Networks, Convolutional Neural Networks (CNN), Recurrent Neural Networks & LSTM, Generative Adversarial Networks (GANs), Reinforcement Learning, Creating and deploying networks using Tensor flow and Keras.
- ❖ Case Studies, Projects and Industry practices

List of Projects

- Prediction of COVID-19
- Diagnosis of knee abnormality
- Alzheimer's Disease Detection
- Epilepsy Detection using EEG Signal
- Recognition
- Sentiment Analysis
- Recognition of human activities
- Loan prediction Predict Migration
- Predict Fuel Efficiency
- Next Word Prediction

- Housing Price prediction
- Stock price prediction
- Weather forecasting
- Rainfall prediction
- Earthquake Prediction Model
- Bitcoin Price Prediction
- Employee Attrition Prediction
- Energy consumption prediction

Internship Application Process

Applications are advised to follow the given instructions while registering for the Summer Internship Program

Registration Fees
- ➢ **UG Students**   **Rs. 20,000/-**
- ➢ **PG students/PhD**   **Rs. 22,000/-**
- ➢ **Faculty**   **Rs. 25,000/-**

Note: (I) Including 18% GST in the registration fees.
Note: (II) If any candidate published a conference paper the paper registration fees wiil be beared by RAMAN Lab.

Payment mode
Demand Draft:
Demand draft (DD) payable at Jaipur, in name of:
Registrar (Sponsored Research), MNIT Jaipur

NEFT/IMPS:
Registrar (Sponsored Research), MNIT Jaipur

Account No.676801700388
IFSC CODE: ICIC0006768 (ICICI BANK, MNIT)

Registration Form Details
After fee submission, the applicant must register themselves by submitting details on

https://forms.gle/bzBfMqF72rhJL5EM8

Further details of the internship and instructions for filling the form may be found on https://ramanlab.co.in
The applicant may also mail the filled registration Form (given) with the appropriate requirements to the address of correspondence mentioned.

All registration forms must be received by
10th May, 2022. Registration fee is non-refundable.

The selection for the internship will be on *'first come first served'* basis for the limited *25 seats*. The confirmation of the selection to attend the course will be emailed by the mentioned date.
For further details about the course, contact ramanlabmnit@gmail.com

Registration Form

Summer Internship
Program on
Machine Intelligence with Python Programming
Malaviya National Institute of Technology, Jaipur
16th May, 2022 – 15th July, 2022

Name: _____

Category (UG/PG/Faculty): _____

Semester & Department: _____

Specialization (PG/Faculty): _____

Institute:

Mailing Address:

Phone (M): _____

(O) _____

Email: _____

Accommodation required?
(Please indicate one)

Yes	No

Registration fee Details:
Mode of payment (DD or NEFT/IMPS): _____
Transaction No./ DD No. _____
Amount Paid: _____

The above information is accurate to the best of my knowledge at the time of completion of the form. If selected, I agree to abide by the rules and regulations of the program and MNIT Jaipur.

Date: _____   **Candidate's Signature**
The applicant is permitted to participate in the above program for the mentioned duration.

Date: _____   **Signature of HoD with Seal**