MNIT INNOVATION AND INCUBATION CENTRE (MIIC)

Announces:

Online/Offline
Summer Internship Program (SIP-2021)
in

- **Unmanned Ariel Vehicle (UAV)**
- **Digital Marketing Solution (DMI)**
- **Embedded System And Robotics (ESR)**
- **Application of Artificial Intelligence (AAI)**
- **Modeling and Simulation for Engineering Applications (MSEA)**
- **Application of Machine Learning in Engineering (AMLE)**
- **Additive Manufacturing (AM)**

Commencing From: 1st and 16th of Every Month

Program Duration: 45 days / 60 days

MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY, JAIPUR
(RAJASTHAN)-302017

About MNIT Innovation And Incubation Centre (MIIC):

MIIC is a Technology Business Incubator (TBI) sponsored by DST GOI, New Delhi, and was established in December 2016. MIIC has been registered as a society under the Rajasthan Societies Act, 1958. MIIC's objective is to provide a platform for Conceiving, Realizing, Promoting & Nurturing knowledge based Innovation & Entrepreneurship amongst all aspiring entrepreneurs. MIIC extends incubation support to startups primarily but not limited to the areas of Product or Process design / Re- design, Material or Process innovation, Information & Communications Technology.

MIIC provides all round support for creating an entrepreneurial culture and developing knowledge-based Entrepreneurship amongst Students, Faculty and Staff of MNIT Jaipur as well as for other institutes, startups, and aspiring entrepreneurs Pan India, leading to successful ventures.

About The Program : SIP-2020

Summer Internship Program (SIP) is an integral part of B.Tech, M.Tech and MBA curriculum. SIP is a great opportunity to gain experience of research, develop project management skills and enhance one's knowledge through real Industrial problems. Internship runs for 6-8 weeks through the summer. Students are allocated self-contained projects by academic supervisors, spanning a broad range of subject areas and feeding directly into current research and teaching activities. During SIP, each student is assigned a project and is trained to handle various equipment and machines available in the laboratory. The programs are industry/ projects based and address the fundamental understanding as well as the applications related to specific domains.

COURSE CONTENT

Program-I

Unmanned Ariel Vehicle (UAV) in Partnership with Zerogravity Aero Systems Pvt. Ltd. (www.zerogravityaerosystems.com)

Week-1/2: Introduction • Fundamentals of physics • Basic Aeronautics • Air frame structure • Basic electronics • Basic mechanics • Model building techniques • Drones rules and regulation

Week-3/4: Scales • Plan making • Auto CAD • Solid works • Corel draw • 3d Printing • Laser Cutting • Preparation of Flight Electronics

Week-5/6: Hot Wire Cutting • Balsa Building • Wing Construction • Fuselage Construction • Tail/Fin • Model Assembly • Electronics Installation

Week-7/8: Simulator Training • Gliding Training • Circuiting Training • Takeoff Training • Landing Training • Solo Flight

Eligibility: B.Tech./M.Tech Students (Any Semester, Any Stream)

Offline Course Fee: Rs.15000/-.

Online Course Fee: Rs.10000/-

Program- II

Digital Marketing Interventions (DMI) in partnership with Polysol Infotech Pvt. Ltd. (www.polysolinfotech.com)

Week 1: Search Engine Optimization
Week 2: Search Engine Marketing
Week 3: Social Media Optimization
Week 4: Affiliate Marketing
Week 5: Graphic Designing
Week 6: Website Development using CMS
Week 7/8: Email, Mobile & E-commerce Marketing

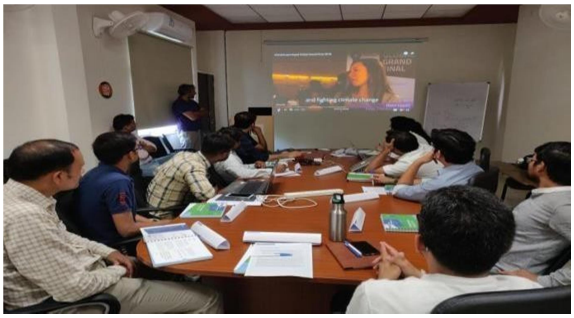
Eligibility: UG/PG Students (Any Stream)
Online/Offline Course Fee: Rs.12000/-

Program-III

Embedded System and Robotics (ESR) in partnership with Hyaku Innovative Technologies Pvt. Ltd. (www.techhyaku.com)

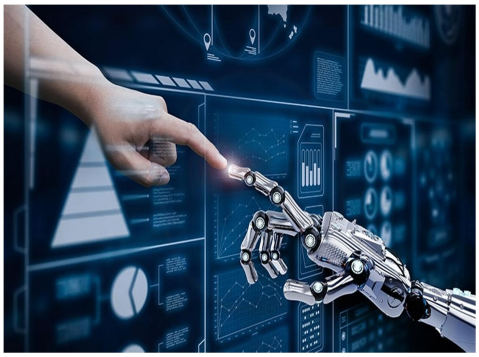
Week 1: Basic Electronics, Introduction to embedded system, Different types of microcontrollers. Getting Started with Arduino,
Week 2: Interfacing Sensors(ir sensors, ultrasonic sensors,pir sensors etc) to Arduino, Interfacing 16*2 LCD to Arduino, Communication Protocols : UART,SPI and I2C, Interfacing keypad to Arduino, Interfacing DC motors to Arduino
Week 3: Wired robot, Line following robot autonomous robot, WIFI controlled Robot, 4 DOF Robotic Arm, 6 DOF Robotic Arm, CNC Robot.
Week 4: Overview of IoT and High level, Architecture, Setting up IoT work-flow, Programming with Advanced C / Embedded C, Microcontroller programming using NODE MCU, IoT Protocols: HTTP, MQTT, IoT Cloud Infrastructure, Performance and Security in IoT Android application for IoT.
Week 5/6: Python Basics, Pandas, NumPy OpenCV.

Eligibility: B.Tech./M.Tech Students (Any Semester, Any Stream)
Offline Course Fee: Rs.12000/-
Online Course Fee: Rs.8000/-



Program- IV

Application of Artificial Intelligence (AAI) in partnership with Svaarogyam Medical Devices Pvt. Ltd.

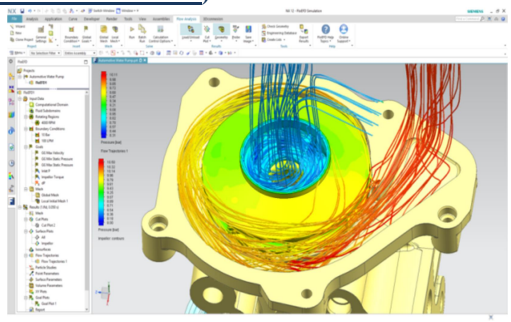


Week-1: Introduction to Python, Basic language syntax, Model Building, Data Science and Analysis, Data Visualization.
Week-2: Basics of Machine Learning, Basics of Regression, Various Regression Models, Various Classification Models, Deep Learning
Week-3: Linear Regression, Navie Bays, SVM, PCA, NFM, Clustering
Week-4: Introduction to NN, CNN, RNN, FLAN, DNN.
Week-5: Classical RL, Basic model design, Deep RL, RL designing 1, RL designing 2.
Week-6: Embedded System Basics, ARM Cortex architecture, ARM Instruction sets, Role of Embedded System & Application in healthcare

Eligibility: B.Tech./M.Tech Students (Any Semester, Any Stream)
Online Course Fee: Rs.8000/-

Program-V

Modelling and Simulation for Engineering Applications (MSEA) in partnership with Vincenzo Solutions Pvt. Ltd. (www.vincenzosolutions.wixsite.com/vincenzosolutions)



Week 1: Basics of Finite element analysis, Finite volume method and Finite differential method, basics of 2D drafting and 3D modelling
Week 2: Introduction to Modelling software, hands on experience on 2D and 3D modeling tools
Week 3/ Week 4: Introduction to finite element analysis tools, Mechanical Basics, General Preprocessing, Structural (static and transient) analyses, Heat Transfer (steady-state and transient), Boundary Conditions, Results and post processing.
Week 5: Basics of computational fluid dynamics, General Preprocessing, Boundary Conditions, Results and post processing.
Week 6: Case studies, and minor project based on industrial application

Eligibility: B.Tech./M.Tech/PhD Students (Any Semester, Any Stream)
Offline Course Fee: Rs.12000/-
Online Course Fee: Rs.10000/-

Program-VI

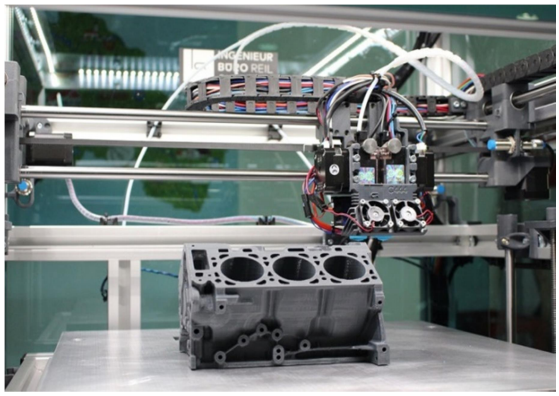
Application of Machine Learning in Engineering (AMLE) in partnership with Vincenzo Solutions Pvt. Ltd. (www.vincenzosolutions.wixsite.com/vincenzosolutions)

Week 1: Python basics, python advance, numpy, panda.
Week 2: Statistical foundation, Data preprocessing, data visualization.
Week3/ Week4: Introduction to machine learning, supervised learning, classification & Regression models: DT, KNN, SVM, RF, Unsupervised learning.
Week 5: Introduction to Deep learning, image classification using CNN, object detection using CNN, computer vision.
Week 6: Basics of Natural language processing, Basics of reinforcement learning, Case studies, and minor project based on industrial application.

Eligibility: B.Tech./M.Tech/PhD Students (Any Semester, Any Stream)
Offline Course Fee: Rs.12000/-
Online Course Fee: Rs.10000/-

Program-VII

Additive Manufacturing (3D-PRINTING) (AM) in partnership with Vincenzo Solutions Pvt. Ltd. (www.vincenzosolutions.wixsite.com/vincenzosolutions)



Week 1: Modelling of Additive Manufacturing (AM) Process: Surface Roughness due to Staircase Effect, Part Build-time, Fabrication Cost, Optimal Orientation, Quantification of Building Inaccuracy and Part Stability.
Week 2: Various Process for Additive Manufacturing, Introduction to Prototyping, Traditional Prototyping Vs. Rapid Prototyping (RP), discovering to 3D printing, History of 3D printing technology, basics of 2D drafting and 3D modeling.
Week 3/Week 4: 3D Printing in Manufacturing, 3D Printing for Development and Education, From Ideas to Objects, Data Formats for 3D printing technology: Tessellated Models, STL Format, STL File, Problems.
Week 5: Data Processing for 3D printing technology : Part Orientation and Support Structure, Generation, Model Slicing and Contour Data Organization.
Week 6: Case studies, and minor project based on industrial application

Eligibility: B.Tech./M.Tech/PhD Students (Any Semester, Any Stream)
Offline Course Fee: Rs.12000/-
Online Course Fee: Rs.10000/-

Registration Form

"SIP-2021"

MNIT Innovation and Incubation Centre (MIIC) Jaipur (Rajasthan)-302017

Full Name: _____

Present Course/Position_____

Institute/organization: _____

Address of Correspondence:

_____

_____

Pin Code:_____

Mobile:_____

E.mail:_____

Select Program: ☐ I-UAV ☐ II-DMI ☐ III-ESR ☐ IV-AAI ☐ V-MSEA ☐ VI- AMLE ☐ VII-AM

Training Duration: ☐ 45 days ☐ 60 days

Details of Registration Fee:

Name of Bank & Branch:

DD No.:/NEFT Tr. no. _____ Dated:_____

For Rs._____(DD should be in favor of "MNIT Innovation And Incubation Centre", payable at Jaipur)

Date: **Signature of Participant**

Limited Seats:

- Confirmation email shall be sent to the aspiring participants, only after the receipt of payment is received.(Attach Scanned copy of DD/Online receipt with transaction/reference ID in Email.)
- Scanned copy of the filled form is to be mailed / posted along with the DD of the course fee.
- The SIP shall be conducted on online/offline modes depending upon COVID related instructions from the Government.

CHIEF PATRON:

Prof. Udaykumar R Yaragatti
(Director, MNIT Jaipur)

PATRON:

Prof. Jyotirmay Mathur, Secretary,
MNIT Innovation and Incubation Centre , MNIT, Jaipur

COORDINATORS:

Dr. Monica Sharma, MIIC
Dr. Amar Patnaik, MIIC
Dr. Sanjay Gaur, Manager MIIC

COMMUNICATE TO:

Mr. Kanishk Jain Project Officer, MIIC MNIT Campus,
Jaipur
Email: miic@mnit.ac.in Website: www.miic.mnit.ac.in
Mobile: 7568002222

Fee Details:

Applicable course fee is to be paid through: Demand Draft (DD) drawn in favour of **"Coordinator, MNIT Innovation And Incubation Centre",** payable at Jaipur

Or

by NEFT, details for which are:
A/c Name: MNIT Innovation and Incubation Centre
A/c Number: 676801700527
Bank Name: ICICI BANK, MNIT Branch
IFSC Code: ICIC0006768