Ministry of Electronics & Information Technology (MeitY) Government of India

Electronics & ICT Academy, NIT Warangal
Department of Electrical Engineering

In Association with
Department of Mechanical Engineering
Sri Sai Ram Engineering College, Chennai-44

ONLINE FACULTY DEVELOPMENT PROGRAMME (FDP) ON

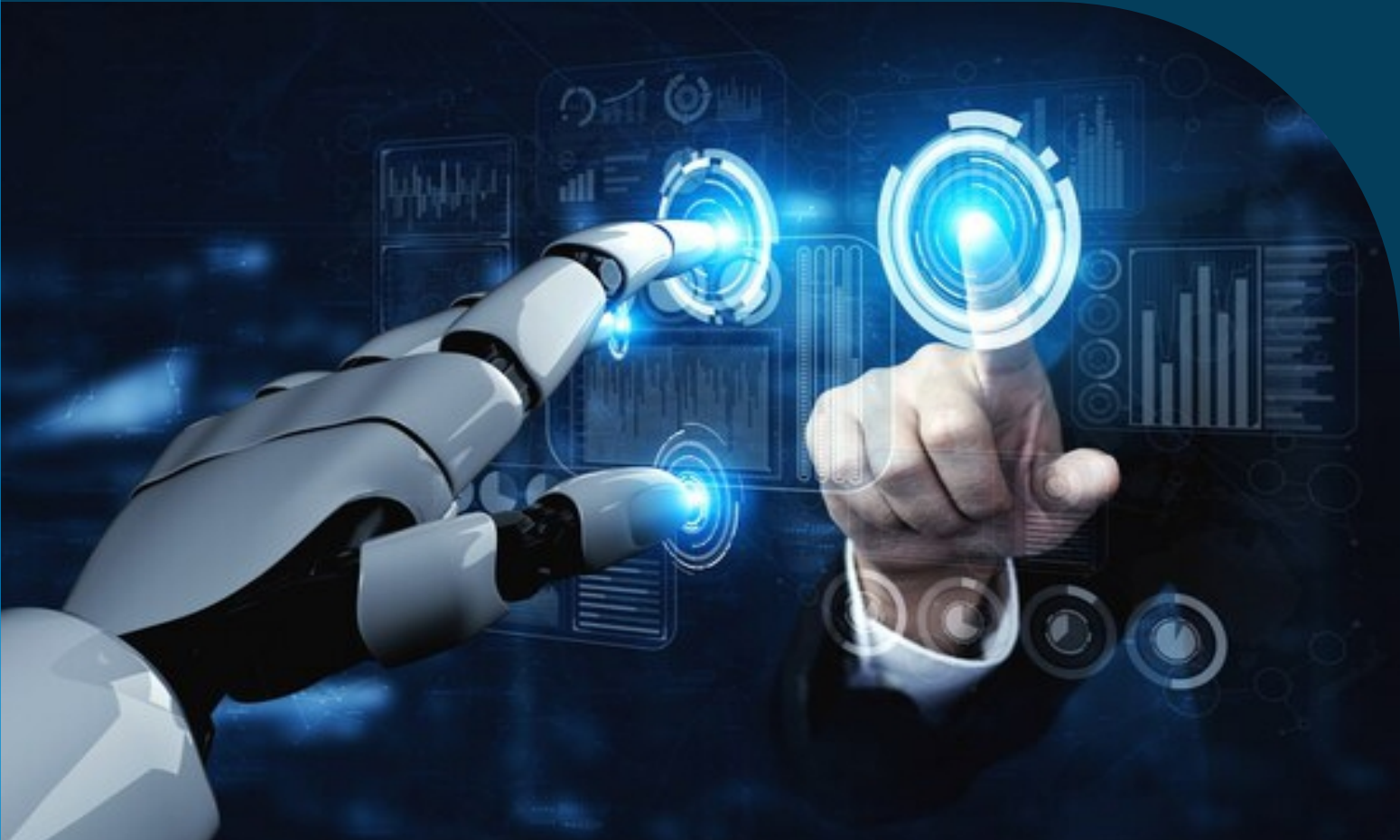# APPLICATIONS OF ARTIFICIAL INTELLIGENCE IN DIGITAL MANUFACTURING

21.02.2022 to 03.03.2022

Sri
SAI RAM
ENGINEERING COLLEGE
An Autonomous Institution
West Tambaram, Chennai - 44
www.sairam.edu.in

Sairam RAISE | Sairam EOMS

ARIIA
ATAL RANKING OF INSTITUTION
ON INNOVATION ACHIEVEMENTS
EXCELLENT BAND

nirf 109 RANK
NATIONAL INSTITUTIONAL RANKING FRAMEWORK

IQAC Quality

INSTITUTION'S INNOVATION COUNCIL
(Ministry of Education Initiative)

SUSTAINABLE DEVELOPMENT GOALS
4 QUALITY EDUCATION
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Sairam
INSTITUTIONS

PREAMBLE

"Electronics & ICT Academy" was set up at NIT Warangal with financial assistance from MeitY, GoI. The jurisdiction of this academy is Telangana, Andhra Pradesh, Karnataka, Goa, Puducherry and Andaman & Nicobar Islands. This academy's role is to offer Faculty Development Programmes in standardized courses and emerging areas of Electronics, Information Communication Technologies, training & consultancy services for Industry, Curriculum development for Industry, CEP for working professionals, Advice and support for technical incubation and entrepreneurial activities.

Under the umbrella of this academy, a standardized course namely "Applications of Artificial Intelligence in Digital Manufacturing" is proposed.

This course is suitable for faculty, researchers in academia and industry as well. The purpose of conducting this 10 – days FDP is to provide the participant with precise theoretical and practical knowledge up to date development of AI in Digital Manufacturing. The programme provides an indepth understanding to the faculty members to teach and carrying out research in Artificial Intelligence in Digital Manufacturing ICT tool for developing the new technology for the industrial applications.

ABOUT FDP

Industry 4.0 is the information-intensive transformation of manufacturing (and related industries) in a connected environment of big data, people, processes, services in a way to realize smart industry and collaboration. Digital manufacturing is an integrated approach to manufacturing that is centered on a computer system. As more automated tools become used in manufacturing plants, it has become necessary to model, simulate and analyze all machines, tooling and input materials in order to optimize manufacturing processes. Digital manufacturing if integrated with artificial intelligence (AI) technique can enhance production efficiency by decreasing downtime while improving customer satisfaction. Such an approach will help to predict failures more accurately. Predict workloads, detect and anticipate problems to achieve zero incidences. With an AI enabled digital manufacturing system, production can function at an exceptional speed while reducing costs and enhancing customer perceptions. This FDP programme will bring together both academic and industry experts to provide more insight and unveil research avenues in the application of AI in manufacturing domain.

ABOUT NIT WARANGAL

National Institute of Technology, Warangal is the first among 17 RECs setup as joint venture of the Government of India and the state government. Over the years the college has established itself as a premier Institute imparting technical education of a very high standard leading to the B.Tech degrees in various branches of engineering, M.Tech. and Ph.D programs in various specializations. All B. Tech and M. Tech programmes of NIT Warangal are NBA accredited.

ABOUT NIT WARANGAL- EEE DEPARTMENT

The Department of Electrical Engineering is one of the oldest departments of the National Institute of Technology, Warangal (NITW). Established as one of the major departments of the Institute, since its inception in 1959, the Department of Electrical Engineering has been actively engaged in teaching and research in diverse fields of Electrical Engineering. With excellent faculty, the Department of Electrical Engineering offers Under Graduate (B.Tech) and Post Graduate (M.Tech) in Power Electronics & Drives, Power Systems and Smart Electric Grid and research (Ph.D) programmes.

ABOUT SEC CHENNAI

Sri Sai Ram Engineering College, Chennai was established in the year 1995 by Philanthropist, Educationist and Industrialist, MJF.Ln.Leo Muthu, Chairman of Sapthagiri Educational Trust, a non-profitable, and non-minority institution. The college is situated among sylvan surroundings in an area of more than 100 acres at Sai LeoNagar, near the Kishkinta amusement park. The college offers eleven B.E. / B.Tech., Undergraduate Degree programmes and six Post Graduate Degree programmes. The College is ISO 9001:2015 certified, NBA, NIRF ranked, NAAC 'A+' accredited and an Autonomous Institution affiliated to Anna University and approved by All India Council for Technical Education. The Institution has well-established infrastructure facilities, well equipped laboratory, Fully Air-conditioned College Library, and state of the art Indoor stadium with seating capacity of 7500 people. A well-defined vision, highly committed mission and dedicated leadership facilitate Sri Sairam Engineering College to be one of the best educational institutions in the country.

ABOUT SEC CHENNAI – MECHANICAL DEPARTMENT

The Department of Mechanical Engineering has been established in the year 1995. The Department is accredited by NBA and CII-AICTE survey of industry linked technical Institutions 2015 & 2020 has placed the Department of Mechanical Engineering in the first position at all India level. The Department has been recognised by Anna University as a Centre for Research. Students are encouraged to actively participate in professional society activities in which real time all-Terrain vehicles are fabricated through events like BAJA, EBAJA, EFFICYCLE, SOLARIS, SUPRA, GOKART, E-Bike and able to win many prizes.

MAJOR COURSE CONTENTS

- ➢ **Intelligent, Innovative and Integrated manufacturing**
- ➢ **Implementation of machine learning algorithms using python**
- ➢ **Deep learning trends and its applications**
- ➢ **Recent advances in additive manufacturing**
- ➢ **Lean manufacturing & industry 4.0**
- ➢ **Bio-inspired mobile robotics underwear robotics at various size scales**
- ➢ **IoT Concepts, technologies and standards**
- ➢ **Applications of Micro Manufacturing**
- ➢ **Manufacturing advancement in medical technologies**
- ➢ **Smart Inspection and Metrology**
- ➢ **Machine Vision System**
- ➢ **3D Printing**
- ➢ **Case studies on Advanced Manufacturing Engineering**
- ➢ **Robotics & Automation**

FACULTY CONDUCTING THIS PROGRAMME

The programme will be conducted by the faculty members from NIT Warangal in association with Sri Sai Ram Engineering College, Chennai – 44. Academicians in the concerned field from IITs/NITs/IIITs are invited to deliver lectures in the programme. Speakers from industries are also deliver as part of the course.

ELIGIBILITY

The programme is open to the Faculty and Research Scholars of Mechanical Engineering, Electrical Engineering and Allied Disciplines approved by AICTE. Industry personnel working in the concerned/allied discipline can also attend.

REGISTRATION FEE PARTICULARS

Faculty and Research Scholars   ₹. 500

Industry Participants   ₹. 1,500

Participants need to pay the Registration Fee Online using the following details.

Online Transfer Details

Account Name	Electronics & ICT Academy NITW
Account No	62423775910
IFSC	SBIN0020149
Bank and Branch	State Bank of India, NIT (REC) Warangal

HOW TO APPLY

Participants are required to fill the online registration form by clicking on the following link:

https://tinyurl.com/NITW-SairamMechfdp

SELECTION CRITERIA

Selection will be done based on first-cum-first-serve basis and the confirmed candidates will be notified immediately. The maximum number of participants will be 50 (fifty). Additionally, 10 participants from industry are allowed to participate. The list of selected participants will be intimated through e-mail. In case a candidate is not selected, the Registration Fee will be sent back. A test will be conducted at the end of the course. Candidates will be issued satisfactory certificates on successful completion of the course. Reservations are followed for selecting candidates as per GOI norms

IMPORTANT DATES	
Last date for Registration	17.02.2022
Selection-list intimation by e-mail	19.02.2022
Duration of Program (40 Hours)	21.02.2022 – 03.03.2022

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REGISTRATION FORM

1. Name   :
2. Designation   :
3. Institution   :
4. Email   :
5. Ph. No   :
6. Transaction No   :   Bank: Date :
7. Amount   :
8. Address for Correspondence   :

9. Educational Qualification   :
10. Subjects taught so far   :
11. No. of refresher courses/
    workshops attended   :
12. Experience (in years)   :
13. Teaching: Research: Industry   :

DECLARATION

The information provided is true to the best of my knowledge. If selected, I agree to abide by the rules and regulations of the FDP and shall attend the course for the entire duration. I also undertake the responsibility to inform the Coordinator in case, I am unable to attend the course.

Signature of the Applicant

SPONSORSHIP CERTIFICATE

Dr. /Mr. /Ms. ……………………………… is an employee of our Institute/Organization and is hereby sponsored to participate in the online FDP on "Applications of Artificial Intelligence in Digital Manufacturing", Organised by Electronics & ICT Academy, NIT Warangal in association with Sri Sai Ram Engineering College, Chennai - 44 during 21st February 2022 – 03rd March 2022.

Signature of Head of Institution /
Head of the Department
(with seal)

Chief Patron

Shri. Sai Prakash LeoMuthu

Chairman & CEO
Sairam Institutions

Patron

Dr. K. Porkumaran
Principal

Convener

Dr. B. Vijaya Ramanath
Head of the Department

Organiser

Dr. M. UDAYA BHASKER

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Mr. S. K. DINESH KUMAR

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Ph. No: +91 9944815991

Co-ordinators

Mr. R. Bhoopathi & Mr. P. Anbarasu
Assistant Professor (s)
Department of Mechanical Engineering
Sri Sai Ram Engineering College,
Chennai

Organising Secretaries

Mr.R. Rajaprasanna
Mr.M.Murugan
Mr.V.Ranjith Kumar
Assistant Professor (s)
Department of Mechanical Engineering
Sri Sai Ram Engineering College, Chennai

For enquiries please contact
Email: fdp.mech@sairam.edu.in
Mobile: 9786092462 / 9944815991

SCAN ME

**SUBMIT REGISTRATION FORM
AND DULY SIGNED APPLICATION**
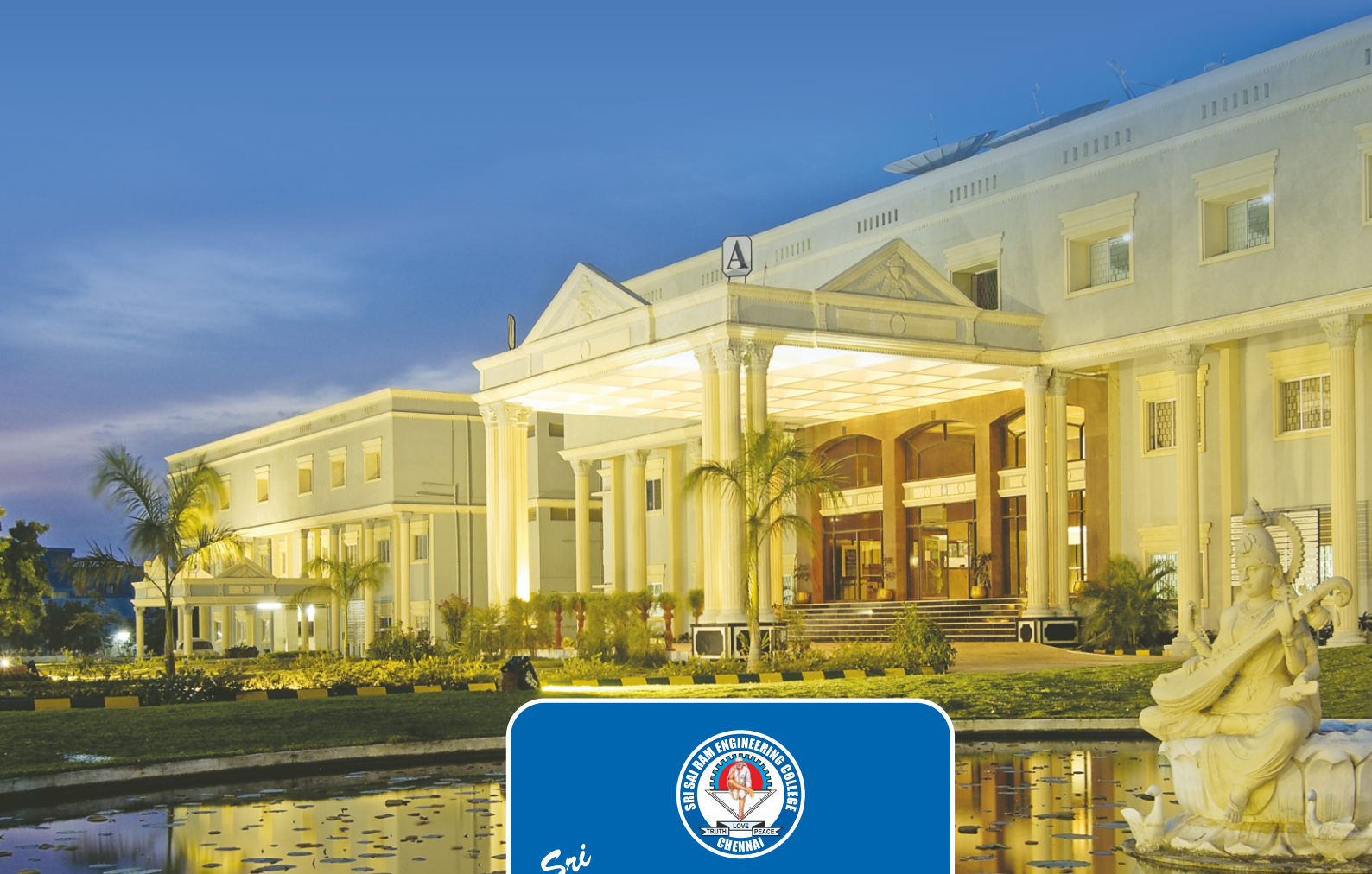through the following link

https://tinyurl.com/NITW-SairamMechfdp

For more details about Electronics & ICT Academy, NIT, Warangal,
please visit: https://nitw.ac.in/eict