

# Avinashilingam Institute for Home Science and Higher Education for Women



**AIU – Avinashilingam Institute –  
Academic and Administrative Development Centre  
(AIU-AI-AADC)  
&  
School of Engineering  
&  
Centre for Machine Learning and Intelligence (CMLI)**

**Jointly organizes**

**Eighth Short Term Capacity Building Programme for the year 2024**

**on**

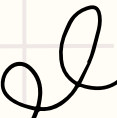
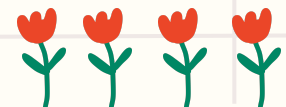
## **AI for Engineers: Tools, Techniques and Applications**

**14.10.2024 to 18.10.2024**

**Online!**



**Invited Talks  
Case Studies  
Hands -on Sessions  
Activities**



## ABOUT THE INSTITUTE



**Avinashilingam Institute for Home Science and Higher Education for Women - the epitome of higher education is one of the premier institutions in India well known for its commitment towards the empowerment of women through value based and holistic education. The institute follows educational ideals of Sri Ramakrishna, Holy Mother Sri Saradamani Devi, Swami Vivekananda and Mahatma Gandhiji. The institute is one of the significant contributions of Padma Bhushan, Dr. T. S. Avinashilingam, an illustrious educationist, freedom-fighter and Gandhian and Dr. Rajammal P. Devadas, the world- renowned nutritionist.**

**The Institute had its humble beginning in the year 1957 as Sri Avinashilingam Home Science College for Women and has been conferred the Deemed to be University by MHRD in 1988. Few of the recent accolades of the Institute includes: A++ with CGPA of 3.65/4 by NAAC; 81st Rank in NIRF, 5th Rank under the category of 'University & Deemed to be University (Govt. & Govt. Aided) Technical' in ARIIA – 2021.**

**Presently, the institution is progressing towards 'beyond-excellence' under the able guidance and leadership of Dr.T. S. K. Meenakshi Sundaram, Managing Trustee and Chancellor, Dr. V. Bharathi Harishankar, Vice Chancellor and Dr. H. Indu, Registrar i/c.**





# ABOUT THE ASSOCIATION OF INDIAN UNIVERSITIES



Association of Indian Universities (AIU) is an apex inter university representative body of universities and other higher education institutions in the country. Established in 1925 as the Inter University Board (IUB) of India, it acquired its legal status as a registered society in 1967 under the Societies Registration Act 1860 and was rechristened as Association of Indian Universities (AIU) in 1973. AIU is the second oldest university association in the world next to the Association of Commonwealth Universities which was established in 1913.

It has the distinct feature of having the largest network of universities and other HEIs under its ambit with 1002 Members which includes 16 Associate Members of Foreign Countries. The membership of AIU includes all types of universities e.g., Conventional Universities, Open Universities, Deemed to be Universities, State Universities, Central Universities, Private Universities and Institutes of National Importance.

In addition to Indian Universities, Universities / Institutes from Bangladesh, Bhutan, Republic of Kazakhstan, Malaysia, Mauritius, Nepal, Thailand, United Arab Emirates and United Kingdom are its Associate Members. Since its inception AIU has played a very significant role in the development of Education in the Country.

Some of the eminent scholars and visionary leaders like Dr Sarvepalli Radhakrishnan, Dr Shyama Prasad Mukherjee, Dr Zakir Hussain, Sir. A L. Mudaliar have given leadership to AIU. During such a long journey, AIU has carved a niche for itself by serving the Ministry of Education, Govt. of India as a research-based policy advisory body. Being an apex institution, it constitutes an integral part of all major decision-making committees and commissions in the country.

As an academic 'think tank' organization, AIU supports the Government as research-based policy advisory body with the wider mandate of taking up research projects on higher education policy and capacity building. It also acts as a bureau of information on higher education; liaise with international bodies and universities for internationalization of Indian higher education among many others. The Vision of AIU is to emerge as a dynamic service and apex advisory organization in India by undertaking initiatives and programmes which could strengthen and popularize Indian higher education as leading-edge system in the world and promote greater national and international collaboration in Higher Education, Research, Extension, Sports, Youth and Cultural Activities.

It is bestowed with the mission of promoting and representing the Indian Universities and other higher education institutions through strong liaison with the government and National/International organizations, sister associations world over and establish liaison between/among universities through active support, cooperation and coordination among the member universities and all its stakeholders for quality education, research and other academics and extension activities.





# ABOUT THE CENTRE

**AIU–Avinashilingam Institute - Academic and Administrative Development Centre (AIU-AI-AADC) has been initiated by the institute in association with Association of Indian Universities (AIU) as a step towards training the human resources of higher education institutions. The specific objectives of the centre are:**

- **Facilitate learning through Performance Improvement Programmes for different groups (Administrators/Teaching Faculty/Non-Teaching Research Scholars/Technical Personnel) towards progression based on their career stages.**
- **Enable continuous learning through rigorous need-based training sessions**
- **Sensitize stakeholders on recent developments in higher education system in the country and across the world.**
- **Equip academic / administrative / technical / information personnel with the requisite skills on ICT to handle their work effectively.**
- **Develop integrity and professional ethics among higher education personnel.**
- **Strengthen the human capital of the country with right attitude, skills, and knowledge**



## VISION

**To facilitate value-based transition towards changing higher education ecosystem through continuous capacity building.**

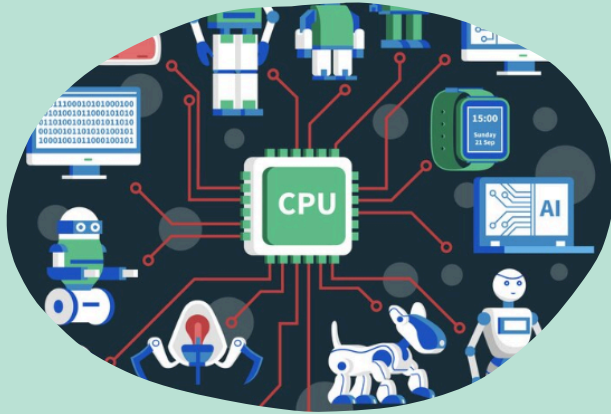
## MISSION

**To impart ICT enabled training to human resources of higher education institutions thereby preparing themselves towards Education 5.0.**





# ABOUT THE PROGRAMME



- The program aims to provide the latest developments in AI, covering foundational concepts as well as emerging trends. Participants will gain hands-on experience with AI tools and techniques, allowing them to engage directly with real-world problems. The participants will delve into a broad range of topics essential for understanding and teaching AI in engineering contexts. This includes an overview of core AI concepts, AI tools and platforms useful in various engineering domains. Additionally, the program encourages faculty to explore AI research opportunities and apply innovative AI solutions to engineering challenges



- The FDP blends expert-led lectures, hands-on labs, and group discussions to explore foundational and advanced AI topics. With guest speakers from industry and research, it highlights the latest AI trends and applications. This initiative aims to equip engineering educators with AI tools, fostering a new generation of engineers capable of driving future innovations.

## OBJECTIVES

- Explore the fundamentals of AI and its relevance to engineering disciplines.
- Understand the various applications of AI in engineering research and development.
- Learn how to integrate AI techniques into research projects and teaching curricula.
- Gain hands-on experience with AI tools and technologies through practical sessions and workshops.
- Discuss emerging trends and future prospects in the field of AI in engineering.

## TARGET PARTICIPANTS

This FDP is ideal for professors, lecturers, and researchers from higher education institutions in related engineering disciplines, as well as network administrators interested in leveraging AI-driven technologies for enhancing teaching and learning outcomes.

**Duration :** 14.10.24 to 18.10.24

( 5 Days Programme )

**Time :** 9:30 am to 4:45 pm

**Note :** E-certificates will be issued upon successful completion of programs, with attendance, feedback, and assessment submissions being mandatory.





# PROGRAMME SCHEDULE

Day 1: Date: 14.10.2024

## The Role of AI in Science and Technology

- **Session 1:** IoT and AI for Engineers
- **Session 2:** Emerging AI Technologies and their Potential Impact in Construction
- **Session 3:** Mathematics in AI
- **Session 4:** Conservation of Environment and Sustainable Development through AI

Day 2: Date: 15.10.2024

## GenAI

- **Session 1:** Fundamentals of Generative AI and Responsible Generative AI
- **Session 2:** Machine Learning for GenAI
- **Session 3:** Hands-on training on GenAI tools – Vectra AI, Darktrace
- **Session 4:** Ethical Considerations in GenAI



Day 3: Date: 16.10.2024

## Day 3: GenAI, AI Tools and Applications of AI in Biomedical domain

- **Session 1:** Machine Learning System Design for Biomedical Applications: Balancing Innovation with Safety and Compliance
- **Session 2:** Cyber security and Generative AI
- **Session 3:** AI for Engineers-Tools, Techniques and Applications
- **Session 4:** Preparing for Immersive AR & VR Technologies
- **Session 5:** Open Source AI Tools for Biomedical Applications

Day 4: Date: 17.10.2024

## Emerging AI Technology in Communication Systems

- **Session 1:** AI-based Technologies for Next-generation Mobile Communications
- **Session 2:** Integration of Artificial Intelligence with Blockchain
- **Session 3:** Deep Learning and Machine Learning algorithms for Engineering Applications
- **Session 4:** Challenges of Integration of Artificial Intelligence with Communication Technologies



**Day 5: Date: 18.10.2024**

## **Application of AI in Food Processing and Electronic Publishing**

- **Session 1: Novel Technologies in Food Preservation**
- **Session 2: Application of AI in Food Processing**
- **Session 3: AI's Influence on Modern E-Content Development**
- **Session 4: Valedictory – Theme: Harnessing AI for Advanced Content Development**

### **LIST OF RESOURCE PERSONS**

- **Prof. Dr. Maria Zemzami**, Professor, Mohammed V University Rabat, Morocco.
- **Dr. Dattaraya Kute**, Officer on Special Duty, Examination Manager, University Press, Savitri Phule Pune University, Pune.
- **Dr. V. Gowri Sree**, Professor, Dept of High Voltage, Anna University, Chennai.
- **Dr. Sumi Singh**, Founder and Principal, Generative AI Labs, USA.
- **Mr. Visweswaran J**, Country Manager, ARK Infosolutions, Bangalore.
- **Dr. C. Ranjeeth Kumar**, Professor & Dean, Department of CSE, Ashoka Women's Engineering College, Kurnool, Andhra Pradesh.
- **Mr. R. Dinesh Babu**, Managing Director, Brainswig Edutech Pvt.Ltd, Chennai.
- **Mr. Afsal S**, Sr. Application Engineer, ARK & Mathworks Thiruvananthapuram, Kerala.
- **Mr. Varadharaj Krishnan**, Independent Researcher, Washington, USA.
- **Dr. Souvick Chatterjee**, Senior Team Lead- Customer Success Engineering, MathWorks, Bangalore.

- **Dr. K. Uma Maheswari**, Professor & Head, Department of Information Technology, PSG College of Technology, Coimbatore.
- **G. L. Sathyamoorthy**, Professor, Department of Civil Engineering, Kumaraguru College of Technology, Coimbatore.
- **Dr. K. Pandiarajan**, Professor, Department of Electronics and Communication Engineering, Mount Zion College of Engineering and Technology, Pilivalam, Pudukkottai.
- **Dr. P. Naveen**, Programme Lead (Freshmen), Coordinator - Sponsored Research, Member - Centre for Research and Development, Assistant Professor III, Department of Electrical and Electronics Engineering, KPR Institute of Engineering, Coimbatore.
- **Dr. N. Sathish Kumar**, Professor, Department of ECE, Sri Ramakrishna Engineering College, Coimbatore.
- **Dr. Sudha V.K**, Professor, Department of Electronics and Communication Engineering, Dr. Mahalingam College of Engineering and Technology, Pollachi.
- **Dr. P. Malliga**, Professor, Dept. of Computer Science, National Institute of Technical Teacher Training and Research, Chennai.
- **Dr. P. Subashini**, Coordinator, Centre for Machine Learning and Intelligence, Professor of Computer Science, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore.
- **Dr. Arun Sekar Rajasekaran**, Associate Professor, Department of Electronics and Communication Engineering, SR University, Warangal, Telangana.
- **Dr. Balakrishnan K**, Senior R&D Engineer, ABB GiSPL India Ltd, Bangalore.
- **Dr. T. Velmurugan**, Associate Professor, PG and Research Department of MCA, Dwaraka Doss Goverdhan Doss Vaishnav College, Chennai.
- **Dr. Raguraman Munusamy**, Assistant Professor and HOD, Department of Design, Indian Institute of Information Technology, Kancheepuram.
- **Dr.G. Ramsundar**, Assistant Professor (SL.Gr.), Department of Information Technology, Sri Ramakrishna Engineering College, Coimbatore.





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## REGISTRATION FEE

- Indian Participants Rs. 750
- International Participants USD 25

## PAYMENT DETAILS

### BANK ACCOUNT DETAILS

Account Name : **Avinashilingam  
Institute for Home Science and Higher  
Education for Women**

Name of the Bank : **Indian Bank**

Bank Account Number : **6010310202**

IFSC Code : **IDIB000A005**

SWIFT Code : **IDIBINBBCBE**

## AI ADVISORS

Dr. T. S. K. MEENAKSHISUNDARAM, Managing Trustee & Chancellor

Dr. V. BHARATHI HARISHANKAR, Vice Chancellor

Dr. H. INDU, Registrar i/c

## AIU ADVISORS

Dr. PANKAJ MITTAL, Secretary General, AIU

Mrs. RANJANA PARIHAR, Joint Secretary, Printing & Publications, AIU

## PROGRAMME COORDINATORS

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Professor, Department of Electronics and Communication Engineering

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## REACH US AT

Dr. K. RAMYA

Nodal Officer

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