

The Institution of Engineers (India)

A Century of Service to the Nation

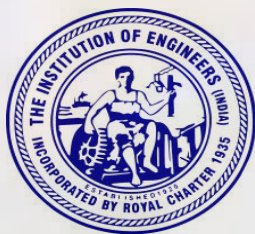
Two Days All India Workshop

On

**Semiconductor-to-Edge Vision: A Workshop on Real-Time Image Processing
Accelerators Using FPGA SoCs**

Date: 30th & 31st JULY 2026

Organized by



The Institution of Engineers (India)

TAMILNADU STATE CENTRE

Under the Aegis of

Electronics & Telecommunication Engineering Division Board (ETDB), IE(I)

in association with



DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
SRM VALLIAMMAI ENGINEERING COLLEGE

(AN AUTONOMOUS INSTITUTION)

APPROVED BY AICTE, AFFILIATED TO ANNA UNIVERSITY, ACCREDITED BY NBA,
'A' GRADE ACCREDITATION BY NAAC AND
ISO 21001:2018 CERTIFIED INSTITUTION,
SRM NAGAR, KATTANKULATHUR - 603203,
CHENGALPATTU DISTRICT, TAMILNADU.

Venue

Academic Block, 3rd floor Seminar Hall,
SRM Valliammai Engineering College,
Kattankulathur- 603 203.

About The Institution of Engineers (India)

The Institution of Engineers (India) or IE(I) is the largest multidisciplinary professional body that encompasses 15 engineering disciplines and gives engineers a global platform for sharing professional interest. IE(I) has membership strength of above 2.6 lakhs. Established in 1920, with its headquarter Kolkata, IE(I) has served the engineering fraternity close to a century. During this period of time, IE(I) has been inextricably linked with the history of modern-day engineering.

In 1935, IE(I) was incorporated by Royal Charter and remains the only professional body in India which has been accorded this honour. Today, its quest for professional excellence has given it a place of pride in almost every prestigious and relevant organization across the globe. It provides a vast array of technical, professional and supporting services to the Government, Industries, Academia and the Engineering fraternity, operating through its 124 Centres located across the country and 6 overseas chapters. Besides, IE(I) has bilateral agreements with about 31 international bodies and membership of another 8 international bodies of the developed nations across the globe.

Being recognized as a Scientific and Research Organisation (SIRO) by the Department of Scientific and Industrial Research, Ministry of Science and Technology, Government of India, IE(I) promotes the cause of research and development by providing Grant-in-Aid support to undergraduate, post graduate students and PhD Research Scholars of Engineering Institutions and Universities.

IE(I) has been recognized as Scientific and Industrial Research Organization (SIRO) by the Ministry of Science & Technology, Government of India and besides conducting its' own research, provides Grant-in-Aid to UG/PG/PhD students of Engineering institutes and Universities.

IE(I) holds the International Professional Engineers (IntPE) Register for India under the global International Professional Engineers Alliance (IntPEA). The institution also awards the Professional Engineers (PE) Certification.

IE(I) in collaboration with Springer regularly publishes peer-reviewed international journal in five series, namely, Series A, Series B, Series C, Series D and Series E covering fifteen engineering disciplines.

For further details, please refer www.ieindia.org

About Tamil Nadu State Centre

The Tamil Nadu State Centre was established originally as the Southern India Centre at Chennai on 22nd December 1922. The Southern Region covered the erstwhile Madras, Andhra, Mysore, Hyderabad and Travancore – Cochin. As more centers were opened in the Southern Region, it was renamed as Madras Centre and later became the TamilNadu State Centre. TamilNadu State Centre has a special significance in the formation of the Institution; for the IEI was registered in 1920 in the then Madras Province at Chennai. The registered office was subsequently moved to Calcutta the Head Quarters of IEI. The Chief Guest for the Inaugural Function of the Annual General Session of IEI Madras Centre in 1959 was Thiru K Kamaraj, Chief Minister of TamilNadu. The TamilNadu State Centre is the most active centre in the country and has been serving the society in general and the engineering community in particular with the said objectives and plays a significant role in dissemination and proliferation of knowledge amongst its members. With a modest membership to start with, the centre has brought into its fold a large section of fraternity with membership strength of more than 30000 Corporate Members and more than 80000 Non – Corporate Members widening its horizon of technical activities. The centre has established sixteen Local Centres at Neyveli, Madurai, Coimbatore, Tiruchirappalli,

Salem, Kalpakkam, Ranipet, Tuticorin, Hosur, Kanyakumari, Tirunelveli, Thiruvallur, Kanchepuram, Thanjavur, Erode and Kattankulathur to serve more professional groups. The major activities of the Division include: Annual National Conventions, Annual & Semi-Annual Paper Meetings, Publication of Journals, Workshops / Seminars and Symposia and Prizes and Awards.

About SRM Valliammai Engineering College

SRM Valliammai Engineering College (An Autonomous Institution) was found on 9th September, 1999 by Dr.T.R.Paarivendhar a well-known educationalist, in the name of his mother Tmt. R.Valliammai to impart world class education in Engineering and Technology particularly to develop useful manpower with entrepreneurship qualities for industry. It is a self-financed institution run by Valliammai Society. The College is approved by the AICTE, accredited by the NBA, 'A' Grade Accreditation by NAAC and affiliated to the Anna University. The institute is offering 11 courses in the Under Graduate (UG) level and 9 courses in the Post Graduate (PG) level. The college has highly qualified, dynamic and dedicated renowned faculty both from academic and industrial background. Besides, the students bring laurels to the college by securing university. It is an ISO 21001:2018 certified institute. 9 departments are recognized as Research Centers by Anna University.

The Department of Agricultural Engineering commenced from the academic year 2019-20 with a vision to mould our students as strong professional Engineers to build our nation. It is established to develop professionals with the knowledge of modern technologies with sustainable farming practices and irrigation. The Department has well equipped laboratories with latest equipment to carry out research activities in the field of micro irrigation techniques. The department has highly qualified and well experienced faculties specialized in areas like Farm Machinery, Food processing, Seed Technology, Plant breeding and Water resources. The department also provides an excellent ambience to the students to groom themselves for an innovative and challenging career in their future.

About The Theme

The rapid advancement of semiconductor technology has enabled the emergence of intelligent vision systems that function directly at the edge. The growing demand for high-throughput, low-latency, and energy-efficient image processing across sectors such as autonomous technologies, smart monitoring, healthcare imaging, and industrial automation has established Field Programmable Gate Array (FPGA) based System-on-Chips (SoCs) as a formidable platform for real-time vision acceleration.

This session concentrates on the comprehensive process, encompassing semiconductor designs to edge-level vision intelligence. It emphasizes the design and construction of real-time image processing accelerators using FPGA SoCs. Participants will understand how reconfigurable computing bridges the divide between algorithm development and hardware execution, facilitating superior performance beyond conventional Central Processing Unit (CPU) and Graphics Processing Unit (GPU) alternatives.

The goal of this hands-on workshop is to help engineers and developers working with FPGAs and vision systems integrate real-time accelerators for applications such as sensor data processing, 3D stereo fusion, and barcode reading. For Artificial Intelligence (AI) vision pipelines that are power efficient, it emphasizes hardware-software co-design on FPGA SoCs, which ties together the principles of semiconductor design with edge deployment. In this hands-on course, participants learn how to design FPGAs to run concurrent imaging algorithms using tools like Mobile Industry Processor Interface (MIPI) cameras and small modules like Vision Components (VC) Power System-on-Module (SoM).

This workshop aims to equip students, researchers, and professionals with the expertise and hands-on experience necessary to develop efficient, resilient, and real-time image processing accelerators, fostering innovation in next-generation edge-vision systems utilizing FPGA SoCs.

Sub thrust areas

- Building Blocks of Semiconductors for Vision Systems
- Designing FPGA System on a Chip for Distributed Computing
- Algorithms for Real-Time Image Processing
- Hardware Optimization Methods
- Advanced Synthesis for Vision-Related Use Cases
- Connecting Image Sensors and Acquiring Data
- Advancements in AI and Vision for the Edge
- Energy-Saving and Latency-Reducing Architecture
- Useful Examples and Real-World Problems

Target Audience

Workshop will provide a platform for exchange of views and ideas on emerging trends in the semiconductor technology. It is also intended to encourage academicians, industry persons, professionals and students to equip themselves with strong knowledge about the technology advancement in Semiconductor-to-Edge Vision.

Call for Papers:

Prospective authors are invited to submit manuscripts reporting original unpublished research and recent developments in the topics related to the theme of the workshop but not limited to sub-themes listed above.

Authors should send an Abstract up to 300 words to ieitamilnadu@gmail.com. The final paper should be in the format available on website (ieindia.org). All presented papers will be included in the proceedings of the workshop.

Important Dates:

Last Date for submitting Abstracts	4 th July 2026	Saturday
Intimation of Acceptance	7 th July 2026	Tuesday
Submission of full paper with Registration Fee	20 th July 2026	Monday
Workshop Dates	30 th & 31 st July 2026	Thursday and Friday

Registration Fee

MEMBER / DELEGATE REGISTRATION FEE		SPONSORS	
		The Sponsors are entitled for free delegates, one full page advertisement, and a logo display in backdrop.	
IEI MEMBERS	INR 885/-	Platinum Sponsor	INR 25,000/- 6 Free Delegates & Advt.- Outside Back Cover Page (Colour)
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Including GST 18%		GST 18% Applicable extra	

Registration fee includes Tea & Lunch during Seminar and a copy of the Souvenir / Technical Proceeding.

Registration & Payments

All payments are to be made through crossed Demand Draft / Cheque / NEFT/Online Net Banking Transfer In favour of “The Institution of Engineers (India), TamilNadu State Centre”.

In case of NEFT / Online Net Banking transfer please mention the following

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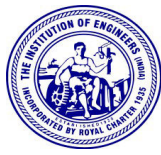
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The Institution of Engineers (India)



All India Workshop

on

**Semiconductor-to-Edge Vision: A Workshop on Real-Time Image
Processing Accelerators Using FPGA SoCs**

Tamil Nadu State Centre

30th & 31st JULY 2026

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