



Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)



ICESIC - 2024

**IEEE International Conference on
Electronic Systems and Intelligent
Computing**

(ICESIC-2024)

<https://veltech.edu.in/icesic.veltech.edu.in>

**IEEE CONFERENCE
RECORD: 61777**

Organized By

**Department of Computer Science &
Engineering**

School of Computing

**Vel Tech Rangarajan Dr. Sagunthala R&D Institute
of Science and Technology
(Deemed to be University)**

**400 feet Outer Ring Road, Avadi, Chennai – 600 062
Tamil Nadu, India.**

November

22nd and 23rd, 2024

Email: icesic@veltech.edu.in

Website: <https://www.veltech.edu.in/>

About Vel Tech Rangarajan Dr.Sagunthala R & D Institute of Science and Technology

Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology (Vel Tech) is one of the pioneering Deemed Universities of INDIA. It was established in 1997. It offers a wide range of programs, including undergraduate, post-graduate, and doctoral programs. Vel Tech is the first member from India to adopt Conceive-Design-Implement-Operate (CDIO). CDIO is a worldwide framework which aims to produce the next generation of engineers. The CDIO based academic process undoubtedly generates knowledgeable, up-skilled graduates with a professional attitude who are industry ready.



Global Alliances of Vel Tech has working international relations with more than 390 institutions across 30 countries and has entered into a Memorandum of Understanding (MoU) with 120 institutions for various academic and research exchange activities. Students, faculty members, and researchers get a collaborative platform for academic projects, explore leading best practices, and research work with international universities. Vel Tech believes that there are no boundaries in the pursuit of knowledge. Through these strategic alliances with international universities, the standard of education at Vel Tech will be on par with the best in the world. Institution is accredited by National Assessment and Accreditation Council (NAAC) with the grade of A++ and holds a National Institute Ranking Framework (NIRF) ranking 11 to 50 in Innovation category and 86 in Engineering Category. Computer Science and Engineering (CSE) is one of the significant specializations in the School of Computing in Vel Tech. Vel Tech has created an ecosystem for innovations, including an Incubation Center and other initiatives for the creation and transfer of knowledge. The whole initiative supports early-stage startups by providing incubation space, mentoring, networking, & financial loans (Convertible debt) up to Rs.50.00 Lakhs. Vel Tech Technology Business Incubator (TBI) has created state of the art facilities like NVIDIA supported AI, ML, DL & digital services labs to support IT innovations. Vel Tech TBI is recognized as a Centre of Excellence under the NIDHI Scheme to expand the facility to a global level.

About Department of Computer Science and Engineering

Computer Science & Engineering (CSE) is one of the significant specializations in the School of Computing. CSE enhances students' ability to extend and strengthen their ability to develop and sustain the transformative software systems of tomorrow. The department activities are determined to create Future Leaders and Trend Setters for the next generation.



This Department offers a Comprehensive Undergraduate and Postgraduate programs curriculum that prepares students to be leaders in emerging technologies. Well qualified and experienced faculty form the backbone of the department. Experts from various industries are invited to deliver Classroom Sessions, Industry Based Hands-on Activities, Guest Lectures and Seminars related to the curriculum and software industry trending topics. Currently, B.Tech. Computer Science & Engineering programs are accredited by NBA under the Tier-I (Washington Accord) category.

Research & consultancy

The Research Division of the Computer Science & Engineering Department covers various aspects of Computer Vision, Software Process & Engineering, Network Systems & Services, and Computing Technologies. The key players for this conference are the research groups working in the major research fields of Artificial Intelligence, Big Data Analytics, IoT, Machine & Deep Learning, Image Processing, Augmented Reality, and Robotics. The Networking Systems and Services group grafts on research areas such as Wireless Sensor Networks, Adhoc Networks, VANET and Security.



The Computing Technologies group concentrates on Data Mining, Analysis and Prediction, Human Computer Interface, Virtual Reality, Brain Computing, Distributed Computing, Social Media Networks, Mobile and Pervasive Computing.

Industrial connection

The Computer Science and Engineering program interacts and liaises with well-reputed industries to facilitate funded projects, research and consultancy in the chosen areas. The Program Corporate Advisory Board includes top executives from leading software industries such as IBM, CISCO, ZOHO, TCS, WIPRO, INFOSYS, ACCENTURE, ASCENDAS, VIRTUSA, CTS, CAPGEMINI etc. An industrial partnership with Clockworks Interview was created as an MOU.

ABOUT THE CONFERENCE

This IEEE Conference on Electronic systems and Intelligent computing is organized by the Vel Tech Rangarajan Dr. Sagunthala R&D Institute of science & Technology which is sponsored by All India Council for Technical Education (AICTE), New Delhi. IEEE approved the conference with the number 61777 and one of the Technical Sponsor is IEEE Madras section, Chennai, India.

SCOPE OF THE CONFERENCE

This conference is to provide an international forum for industry professionals and researchers to deliberate and state their research findings, discuss the latest advancements and explore the future directions in the emerging areas of Engineering and Technology.

The conference also brings together both novice and experienced scientists and developers to meet new colleagues, collect new ideas, and establish new cooperation between research groups, and provides a platform for researchers from academia and industry to present their original work and exchange ideas, information, techniques, and applications in the fields of Software Engineering, networking, Data Science, Big Data, Cloud Computing, Artificial Intelligence & Machine learning, Data Analytics, IoT, Electronic systems and other blooming areas of research.

BENEFITS

- Accepted Papers will be submitted to IEEE Xplore for their consideration to be published (Scopus Indexed).
- Awards will be given for the best research papers.



CALL FOR PAPERS

Original Contributions are solicited on topics covered under broad areas such as (but not limited to):

- Artificial intelligence
- Expert Systems
- Multimedia Applications
- Data science
- Big data Analytics
- Machine Learning
- Deep Learning
- Intelligent Systems
- Cyber Security
- Biomedical
- Cyber Physical systems
- Scientific Computing
- Wireless Sensor Networks
- Internet of Things
- Cloud Computing
- Grid Computing
- Digital Image Processing
- Sustainable communication and Networking
- Software Engineering & CASE
- Power System Stability and Switchgear and Protection
- Power Quality Issues and Solutions
- Smart Grid
- Diagnosis and sensing systems
- Pattern recognition
- VLSI/Embedded Systems
- Nano Technology and MEMS
- Nano electronics/Devices
- Photonic/Opto-Electronic Structures/Devices
- Digital Communication and Telecommunication
- Microprocessor based Technologies
- DNA and Mobile Computing
- High throughput Computing
- Data Structures & Algorithms
- Automated Software Engineering
- Bioinformatics and Scientific Computing
- Computer Architecture and Embedded Systems
- Computer Graphics & Virtual Reality
- Computer Networks & Security& Cryptography
- Data Compression, Data Encryption, Data Mining
- Distributed System

IMPORTANT DATES

Paper submission : September 30th, 2024

Acceptance Notification : October 15th, 2024

Registration and camera ready : October 30th, 2024

PARTICIPATION & DELEGATE FEES

PARTICIPANTS	IEEE MEMBERS	NON-IEEE MEMBERS
Research Scholar / Student	INR 5000/-	INR 6000/-
Academia	INR 5500/-	INR 6500/-
Industry	INR 6500/-	INR 7500/-
Foreign Delegates	US \$250	US \$350
Foreign Students	US \$200	US \$300

Bank Details

Account No. : 75330400000013,

Bank of Baroda, Vel Tech, Chennai.

IFSC Code: BARB0VJVELT (Fifth Character is Zero)



<https://veltech.edu.in/icesic.veltech.edu.in/>

For Conference Website



<https://cmt3.research.microsoft.com/ICESIC2024/Submission/Index>

For Paper Submission

CHIEF PATRONS

Col. Prof. Dr. Vel. R. Rangarajan

Chancellor & Founder President

Mrs. Rangarajan Mahalakshmi Kishore

Chairperson & Managing Trustee

PATRONS

Prof. Dr. S. Salivahanan

Vice Chancellor

Prof. Dr. E. Kannan

Registrar

GENERAL CHAIRS

Dr. S P. Chokkalingam

Professor & Dean SoC, Vel Tech, Chennai, India.

Dr. K. Porkumaran

Chairman, IEEE Madras Section.

CONFERENCE CHAIR

Dr. M. Kavitha

Professor-CSE, Vel Tech, Chennai, India.

PROGRAM CHAIRS

Dr. Murali Dhar M S, Associate Professor & Assistant Head-CSE, Vel Tech, Chennai, India

Dr. S. Sridevi

Professor-CSE, Vel Tech, Chennai, India

INVITED SPEAKERS

Dr. Po-Ming Lee, STUST, Taiwan

Dr. Sarma Venkatraman, Director, CR Rao Institute, Hyderabad

Dr. Sudip Mishra, IIT Kharagpur

Dr. Malathy Jawahar, Senior Principal Scientist, CSIR, Chennai

Dr. Debasis Samanta, IIT Kharagpur

Dr. A. Mercy Latha, CSIR-CEERI, Chennai

Dr. P. Arish, PWC, Bangalore

PUBLICATION CHAIR

Dr. S. Ravi Kumar, Vel Tech, Chennai, India

Dr.R.Kavitha, Vel Tech, Chennai, India.

Dr.D.Umanandhini, Vel Tech, Chennai, India.

Dr.M.Saravana Karthikeyan, Vel Tech, Chennai, India.

Dr.T.Kujani, Vel Tech, Chennai, India.

Dr.T.Kamaleshwar, Vel Tech, Chennai, India.

Dr. K. Antony Kumar, Vel Tech, Chennai, India

Dr.John T Mesia Dhas, Vel Tech, Chennai, India

GENERAL CO-CHAIR

Dr. V. Dhilipkumar, Associate Dean-SoC, Vel Tech, Chennai, India.

Dr. N. Kumarappan,

Immediate Past Chair, IEEE Madras Section Chair, IEEE CIS Madras Chapter

ORGANIZING CHAIR

Dr. N. Vijayaraj

Professor & Head-CSE, Vel Tech, Chennai, India.

PROGRAM CO-CHAIRS

Dr. S. Alex David, Professor & Head-AI&ML, Vel Tech, Chennai, India.

Dr. V. Sivakumar

Associate Professor, MIT, Mangalore

SESSION CHAIR

Dr. Daniel Einarson, Kristianstad University, Sweden

Dr. Malathy Jawahar, Senior Principal Scientist, CSIR, Chennai

Dr. Debasis Samanta, IIT Kharagpur

Dr. A. Mercy Latha, CSIR-CEERI, Chennai

Dr. P. Arish. PWC. Banaalore

PUBLICITY CHAIR

Dr. R. Srinivasan, Vel Tech, Chennai, India.

Dr. S. Durai, Vel Tech, Chennai, India.

Dr. K. Kishore Kumar, Vel Tech, Chennai, India.

Dr. N. K. Manikandan, Vel Tech, Chennai, India.

Dr. K. Durairaj, Vel Tech, Chennai, India.

FINANCE CHAIR

Dr. R. Parthasarathy, Associate Professor & Head-CSD Vel Tech, Chennai, India

Dr. S. Ravi Kumar, Vel Tech, Chennai, India

ORGANIZING COMMITTEE

Dr. J. Visumathi, Head-IT, Vel Tech, Chennai.
Dr. M. Gokuldhev, Head-CSE(DS), Vel Tech, Chennai.
Dr. S. Lalitha, Head-CSE(AIML), Vel Tech, Chennai.
Dr. Rajendran T, Head-CSE(CS), Vel Tech, Chennai.
Dr. P. Santhi, Head-AI&DS, Vel Tech, Chennai.
Dr. R. Aruna, Head-PG, Vel Tech, Chennai.
Dr. M. Rajeev Kumar, Vel Tech, Chennai.
Dr. N. Malarvizhi, Vel Tech, Chennai.
Dr. R. Suguna, Vel Tech, Chennai.
Dr. N. Gomathi, Vel Tech, Chennai.
Dr. N. Raj Kumar, Vel Tech, Chennai.
Dr. N. R. Rajalakshmi, Vel Tech, Chennai.
Dr. A. Bhagyalakshmi, Vel Tech, Chennai.
Dr. M. A. Mukunthan, Vel Tech, Chennai.
Dr. D. Rajesh, Vel Tech, Chennai.
Dr. G. R. Kanagachidambaresan, Vel Tech, Chennai.
Dr. N. K. Senthil Kumar, Vel Tech, Chennai.
Dr. D. Sundaranarayana, Vel Tech, Chennai.
Dr. R. Thanga Selvi, Vel Tech, Chennai.
Dr. A. Peter Soosai Anandaraj, Vel Tech, Chennai.
Dr. P. Rajesh, Vel Tech, Chennai.
Dr. A. Muthukrishnan, Vel Tech, Chennai.
Dr. V. Jeevanatham, Vel Tech, Chennai.
Dr. P. J. Beslin Pajila, Vel Tech, Chennai.
Dr. S. Saran Raj, Vel Tech, Chennai.
Dr. K. Prema, Vel Tech, Chennai.
Dr. D. Angeline Lydia, Vel Tech, Chennai.

Dr.K Rajesh Kambattan, Vel Tech, Chennai.
Mr. G. Rajesh, Vel Tech, Chennai.
Mrs. K. Rajathi, Vel Tech, Chennai.
Mr. D. Manivannan, Vel Tech, Chennai.
Mr.N. Manjunathan, Vel Tech, Chennai.
Mrs. D. Hemalatha, Vel Tech, Chennai.
Mrs. D. Femi, Vel Tech, Chennai.
Mr. A. S. Syed Fiaz, Vel Tech, Chennai.
Mr. V. Ashok Kumar, Vel Tech, Chennai.
Mrs. S. Thylashri, Vel Tech, Chennai.
Mrs. C. Shyamala Kumari, Vel Tech, Chennai.
Mr. K. Prabakaran, Vel Tech, Chennai.
Mr. T. M. Sivanesan, Vel Tech, Chennai.
Mr. N. Siva Rama Lingham, Vel Tech, Chennai.
Mrs. S. Hannah, Vel Tech, Chennai.
Mrs. P. Arivubakan, Vel Tech, Chennai.
Mr. V. Jaganraja, Vel Tech, Chennai.
Mr. Ignatious K Pious, Vel Tech, Chennai.
Mrs. V. Usha, Vel Tech, Chennai.
Mrs. V. Suganya, Vel Tech, Chennai.
Mr. M. Dharma Teja, Vel Tech, Chennai.
Mr. V. Karthikeyan, Vel Tech, Chennai.
Mrs. V. Vijayalakshmi, Vel Tech, Chennai.
Mr. I. Vasudevan, Vel Tech, Chennai.
Mrs. E. Chandralekha, Vel Tech, Chennai.
Mrs. S. Prema, Vel Tech, Chennai.
Mr. R. Banu Prakash, Vel Tech, Chennai.

INTERNATIONAL / NATIONAL ADVISORY COMMITTEE

Dr. M. Shridhar, University of Michigan, Dearborn, USA.
Dr. Daniel Einarson, Kristianstad University, Sweden.
Dr. Po-Ming Lee, STUST, Taiwan
Dr. Haklin Kimm, East Stroudsburg University, USA.
Dr. Mohammad S. Obaidat, University of Texas-Permian Basin, USA
Dr. Ahmed A. Kishk, Concordia University, Canada
Dr. Michael Opoku Agyeman, University of Northampton,
Dr. R. Logeswaran, Asia Pacific University, Malaysia.
Dr. Celestine Iwendi, University of Bolton, USA
Dr. Sundresan Perumal, Universiti Sains Islam, Malaysia,
Dr. Atef Z. Elsherbeni, Colorado School of Mines, USA
Dr. Satish K. Sharma, San Diego State University, USA
Dr. Sandeep Sengar, Cardiff Metropolitan University, UK
Dr. Sarma Venkatraman, Director, CR Rao Institute, Hyderabad, India
Dr. Pethuru Raj, Reliance Jio Platforms Ltd, Bengaluru, India
Dr. Debdatta Kandar, North-Eastern Hill University, Shillong, India
Dr. Debasis Samanta, IIT, Kharagpur, India
Dr. Sudip Mishra, IIT, Kharagpur, India

Dr. R. Hariprakash, Secretary, IEEE Madras Section
Dr. S. Radha, Treasurer, IEEE Madras Section
Dr. Utpal Roy, Visva-Bharati University, West Bengal, India.
Dr. V. Masilamani, IIITDM, Kanchipuram, India
Dr. P. Arish, PWC, Bengaluru, India
Dr. D. Sangeetha, MIT, Chennai, India
Dr. C. Lakshmi, SRMIST, Chennai, India
Dr. B. Amutha, SRMIST, Chennai, India
Dr. Priyanka Kokil, IIITDM, Kanchipuram, India
Dr. L. Jayakumar, NIT Agartala, India
Dr. Jagadeesh Kakarla, IIITDM, Kanchipuram, India
Dr. Khwairakpam Amitab, NEHU, Shillong, India
Dr. Sufal Das, NEHU, Shillong, India
Dr. Swarup Roy, Sikkim University, Sikkim, India
Dr. Lalhmingliana, Mizoram University, India
Dr. Somen Debnath, Mizoram University, Aizawl, India
Dr. A. Firos, Rajiv Gandhi University, Arunachal, India
Dr. Rupam Kumar Sharma, Rajiv Gandhi University, Arunachal, India

TECHNICAL REVIEWER BOARD

Dr. M.Shridhar, University of Michigan, Dearborn, USA.
Dr. Daniel Einarson, Kristianstad University, Sweden.
Dr.Ke-Lin Du, Concordia University, Canada
Dr. Pascal LORENZ, University of Haute Alsace, France
Dr. Sivaraman Eswaran, Curtin University, Malaysia
Dr.Murugananthan Velayutham, APU, Malaysia
Dr.Oana Geman, Stefan cel Mare University of Suceava, Romania
Dr.Stephen O. Olabiyisi, LAUTECH, Nigeria
Dr. Subramaniam Ganesan, Oakland University, USA.
Dr. Meenalosini Vimal Cruz, Georgia Southern University, USA
Dr.Hairul Azhar Bin Abdul Rashid, Multimedia University, Malaysia
Dr. Yuvaraja Teekaraman, Vrije Universiteit Brussel.
Dr. Wee Fwen Hoon, Universiti Malaysia Perlis, Malaysia.
Dr. Saad Kashem, University of Aberdeen, Qatar
Dr.Mario Molinara, UNICAS, Italy
Dr.Basim Alhadidi, Al-Balqa Applied University, Jordan
Dr.Michał Jasiński, Wrocław University of Science and Technology, Poland
Dr.Nurzaman Ahmed, Donald Danforth Plant Center, St. Louis, MO, USA
Dr.V.D.Ambeth Kumar, Mizoram University Mizoram
Dr P Mohammed Fathimal, Anna University, Chennai, India
Dr.Keshab Nath, IIT, Kottayam, India.
Dr. Kumar Prasannajit Pradhan, IITDM, Chennai, India.
Dr. V. Jagadeesh Kumar, IIT Madras, Chennai, India.
Dr Rajendra Prasath, IISc, Bangalore, India.
Dr.Ganesh Kumar Pugalendhi, Anna University, Chennai, India.
Dr.P.Arish, PWC, Bangalore, India.
Dr.Radha Senthil Kumar, MIT, Chennai, India.
Dr. Shiladitya Bhattacharjee UPES, Dehradun, India.
Dr.Sarat Chandra babu Nelaturu, CDAC, Bengaluru, India.
Dr. P. Partheeban, CIT, Chennai, India.

Dr.S.Sasikala, KCT, Coimbatore, India.
Dr.S.Kanthamani, TCE, Madurai, India.
Dr.Muthu Selvan Balasubramanian, SSN, Chennai, India.
Dr. R Jagadeesh Kannan, VIT Chennai, India.
Dr. K Balamurugan, Ph.D, SREC, Coimbatore, India.
Dr. Victor Paul, IIT Kottayam, Kerala, India.
Dr.Rajesh Agarwal, SRMIST, Chennai, India.
Dr V. Ajantha Devi, AP3 Solutions, Chennai, India.
Dr.S.Brindha, Sairam Engineering College, Chennai, India.
Dr.B. K. Tripathy, VIT, Vellore, India.
Dr.Uthayakumar G, St.Joseph's Institute of Technology, Chennai, India.
Dr. Imayavaramban Munuswamy, President and CTO - IC Tech Puducherry
Dr.N.Janakiraman, KLN, Madurai, India.
Dr.K.Rajeswari, TCE, Madurai, India.
Dr.B.Janet, Sri Krishna Engineering College, Coimbatore, India.
Dr.J.T.Thirukrishna, DSAT, Bengaluru, India.
Naveen Kumar Vaegae, VIT, Vellore, India.
Dr Siva Kumar Poruran, Dr NGP Institute of Technology, Coimbatore, India.
Dr. Edna Elizabeth.N, SSN, Chennai, India.
Dr.N.Venkateswaran, SSN, Chennai, India.
Dr. D. Nedumaran, University of Madras, Chennai, India.
Dr.Arumugam Manoharan, Robota Technology Innovation Ltd, Chengalpattu, India.
Dr.K.Sundaraju, KCG, Coimbatore, India.
Dr.Magesh Kasthuri, Wipro Ltd, Bengaluru, India.
Dr.Suresh Velamuri, Eaton India Innovation Center, Pune, India.
Dr.N. R. Raajan, SASTRA University, Thanjavur, India.
Dr.G.Mahalakshmi, Government college of engineering, Tamil Nadu, India
Dr.B.Vinoth Kumar, PSG College of Technology, Tamil Nadu, India
Dr.J.C.Kavitha, Vellore Institute of Technology, Chennai, India
Dr. Manish Verma, NIT, Delhi, India

How to Reach Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology

Vel Tech Campus is well connected by road, rail and air. It is 30 km from Chennai MAA airport. The nearest railway station is Avadi. From there, it is around 9km to reach the campus through MTC/auto services.



**No. 42, Avadi - Vel Tech Road,
Vel Nagar, Avadi, Chennai - 600 062,
Tamil Nadu, India.**

IEEE International Conference on Electronic Systems and Intelligent Computing

ICESIC-2024

November 22nd and 23rd, 2024

REGISTRATION FORM

Name : Prof./Dr./Mr./Ms.....

Gender : Male / Female

Designation :

Dept./Organization :

(With postal address) :

Accommodation : Yes No

E-Mail :

Phone : (R) (O)

Mobile :

Author : Yes No

Paper Title & No :

Registration Fee :

Demand Draft details : **No:** **Bank:** **Dated:**

IFSC Code:

Place:

Date:

Signature of the Candidate

Contact Details:

Dr. Ravi Kumar S / Dr. M. Kavitha

Phone: 9597999100 / 98940 19619

Email: icesic@veltech.edu.in

Seal & Signature of the Sponsoring Authority

Conference Website

<https://veltech.edu.in/icesic.veltech.edu.in/>