# About SRM University-*AP*

SRM University-*AP*, a pioneering institution in higher education, is dedicated to fostering innovation, research, and academic excellence. Established in 2017 with a vision to be a globally connected and industry-driven university, SRM *AP* blends interdisciplinary learning with world-class faculty, state-of-the-art infrastructure, and a dynamic curriculum.

Located in the heart of Andhra Pradesh, the university is committed to nurturing future leaders, entrepreneurs, and researchers through cutting-edge programmes in engineering, sciences, management, and humanities. With a strong focus on experiential learning and industry collaboration, SRM *AP* provides a transformative educational experience that prepares faculty and students to excel in a rapidly evolving world.

# About the Department of CSE

The Department of Computer Science and Engineering (CSE) at SRM University-*AP* is at the forefront of cutting-edge research, technology-driven education, and industry collaboration. With a curriculum designed to meet global standards, the department nurtures future innovators, entrepreneurs, and leaders in computing and artificial intelligence.

Equipped with state-of-the-art laboratories, world-class faculty, and interdisciplinary research centers, the department fosters a culture of experiential learning, innovation, and industry integration. SRM AP's CSE graduates and faculty actively engage in advanced research areas such as Artificial Intelligence (AI), Data Science, Cybersecurity, Internet of Things (IoT), Blockchain, and Cloud Computing.

# Department Vision

To create technology innovators and leaders who can shape the future of society through technical, research, and entrepreneurial skills with a strong emphasis on interdisciplinary learning and collaborations.

# Department Mission

- Use effective teaching and learning pedagogies to enhance technical competency with a focus on computer science and engineering fundamentals.
- Encourage interdisciplinary education and research by promoting the exchange of ideas among a varied community of researchers, educators, and learners.
- Develop a substantial body of knowledge for industrial applications.
- Create an outstanding interdisciplinary research atmosphere.
- Instil students with effective managerial skills, fostering their development into competitive and visionary entrepreneurs.

## Advisory Committee

Prof. (Dr.) Manoj K Arora, Vice Chancellor, SRM University-*AP*
Prof. (Dr.) C V Tomy, Dean, School of Engineering and Sciences, SRM University-*AP*
Prof. (Dr.) Ranjit Thapa, Dean-Research, SRM University-*AP*
Dr. Murali Krishna Enduri, HoD, Department of CSE, SRM University- *AP*
Prof. (Dr.) Prasant Mohapatra, Vice Chancellor for Research, Provost and Executive Vice President of Academic Affairs, University of South Florida, Tampa, USA
Prof. (Dr.) P. Radhakrishna, Professor, Dept. of CSE, NIT Warangal
Prof. (Dr.) Ujjwal Maulik, Professor, Dept. of CSE, Jadavpur University

## Organising Committee

Dr. Sriramulu Bojjagani, Assistant Professor, Dept. of CSE, SRM University-*AP*
Dr. Hema Kumar Yarnagula, Assistant Professor, Dept. of CSE, SRM University-*AP*
Dr. Aurobindo Behera, Assistant Professor, Dept. of CSE, SRM University-*AP*
Dr. Ranjana Mehta, Assistant Professor, Dept. of Mathematics, SRM University-*AP*
Dr. Pulak Kar, Assistant Professor, Dept. of Biological Sciences, SRM University-*AP*.

## Programme Coordinators
### Convenor

Dr. Subhankar Ghatak, Assistant Professor, Dept. of CSE, SRM University-*AP*
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## Co-Convenors

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**DST-ANRF-Sponsored
5-Day Workshop on**

**Revolutionising Healthcare with AI: Computational Biology and Computer Vision in Medical Diagnostics**

**April 28 – May 02, 2025
Organised by**

Department of Computer Science and Engineering
SRM University–*AP*,
Mangalagiri Mandal, Neerukonda, Amaravati,
Andhra Pradesh 522240

## About the Workshop

Artificial Intelligence (AI) is rapidly transforming healthcare, offering groundbreaking advancements in medical diagnostics through computational biology and computer vision. The workshop is a 5-day programme conducted in offline mode with live lectures, and hands-on and interactive sessions. The technical sessions will include presentations from experts in academia on the latest advancements in the themes mentioned. The hands-on training will lay a pathway to get real-time knowledge about the recent trends of computer vision and computational biology in healthcare applications.

## Objectives of the Workshop

The objective of the Workshop is to empower faculty members with cutting-edge knowledge and practical skills in the rapidly evolving fields of computer vision and computational biology to enhance the accuracy, efficiency, and accessibility of medical diagnostics. The programme aims to:

- Introduce the foundational concepts and advancements in computer vision and machine learning, with a focus on healthcare innovation.
- Explore real-world applications such as medical imaging, disease diagnosis, patient monitoring, and predictive analytics.
- Provide hands-on training on tools, frameworks, and techniques used in healthcare-oriented machine learning and computer vision projects.
- Explore AI and machine learning algorithms to analyze multi-omics data for identifying genetic markers and disease susceptibilities to provide insights into personalized treatment regimens and drug discovery.
- Foster interdisciplinary collaboration and research opportunities among faculty to address complex healthcare challenges.
- Equip participants to integrate these technologies into their teaching, research, and professional practices, ultimately contributing to improved healthcare outcomes.

## Outcome of the Workshop

By the end of the programme, participants will have a comprehensive understanding of the role of computer vision and computational biology in transforming healthcare and the skills to drive innovation in academia and beyond.

## Resource Persons

Prof. (Dr.) Amlan Chakrabarti, Professor and Director, A.K. Choudhury School of Information Technology, University of Calcutta

Dr. Suvendu Rup, Associate Professor, Dept. of IT, NIT Raipur

Prof. (Dr.) Anirban Mukhopadhyay, Professor, Department of Computer Science and Engineering, University of Kalyani

Prof. (Dr.) Dipti Prasad Mukherjee, Deputy Director and Professor, Electronics and Communication Sciences Unit, ISI Kolkata

Prof. (Dr.) Ram Bilas Pachori, Professor, Department of Electrical Engineering, IIT Indore

Dr. M. Sabarimalai Manikandan, Associate Professor, Department of Electrical Engineering, IIT Palakkad

Prof. (Dr.) Debarka Sengupta, Professor, Computational Biology and Computer Science, Indraprastha Institute of Information Technology Delhi (IIIT-Delhi)

Prof. (Dr.) Lars Kaderali, Professor and Director, Institute of Bioinformatics, University Medicine Greifswald, Germany

Prof. (Dr.) Angshuman Bagchi, Professor, Department of Biochemistry and Biophysics, University of Kalyani

Prof. (Dr.) Niraj Upadhayaya, Professor, Department of Computer Science and Engineering, SRM University-*AP*, Andhra Pradesh

Dr. Anirban Bhar, Assistant Professor, Department of Computer Science and Engineering, SRM University-*AP*, Andhra Pradesh

Dr. Hemantha Kumar Kalluri, Assistant Professor, Department of Computer Science and Engineering, SRM University-*AP*, Andhra Pradesh

## Key Topics

- Transforming Healthcare through AI-Driven Intelligent Diagnosis
- Role of AI and IoT in Healthcare Applications: Concepts, Architectures, and Key Research Challenges
- Biomedical Signal analysis and classification
- Recent Advances in Medical Image Analysis for Computer-aided Diagnosis System
- Limitation of machine learning based medical image processing system
- Introduction to machine learning in computational biology
- Deep Learning in Genomics
- Predictive models for precision medicine.
- Application of molecular modelling and docking studies in Biology
- Explainability of Large-Language Model (LLM) in Healthcare Applications
- Hands-on Session on Introduction to Deep Learning (DL) and lung tumor detection using DL Models
- Hands-on Session on Computational Biology (Basics of R Programming Language and Bioconductor Repository, Data visualization, Loading and exploring genomics data, Data Preprocessing techniques, Differential Gene Expression Analysis, Pathway Analysis and Interpretation)

## Who Can Participate?

Faculty Members, Researchers, PG Scholars, and Industry Professionals from Engineering Colleges / Institutions, Universities, Research Institutions and Industries.

## Registration Fee

Faculty members / Research scholars / Industry Participants - 1000 INR
Registration fees include lunch and refreshments for all 5 days, programme kit, course materials and participation certificate. Accommodation in University Campus is available for participants at a minimal charge a bed/day.

## Registration Process

- Complete the registration with the link below: https://payment.collexo.com/pay-fee/srm-ap-events-10328

(QR Code for Registration)

- The brochure of the programme may be downloaded from the website URL of the Brochure should be placed here

  www.srmap.edu.in/revolutionizing-healthcare-ai/

- Registration deadline: April 22, 2025 | 11:59 PM (IST)

**Seats will be allocated on a first-come, first-served basis. Candidates will be issued certificates on successful completion of the course.**

SRM UNIVERSITY *AP*
Andhra Pradesh