



AIHC 2025



INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE FOR HEALTHCARE

DECEMBER 10-12, 2025

ORGANIZED BY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING, NIT CALICUT, INDIA

IN COLLABORATION WITH

UNIVERSITY OF UTAH, USA



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AIHC 2025 Objectives

AIHC 2025 (International Conference on Artificial Intelligence for Healthcare), organized under the SPARC Indo-US collaboration program, aims to provide a premier platform for presenting state-of-the-art research, enabling academic-clinical-industrial collaboration, and advancing work in AI, Machine Learning, and Data Science for healthcare and biomedical applications. The conference brings together global researchers, clinicians, academicians, and industry professionals to share innovations and address real-world healthcare challenges. It fosters interdisciplinary dialogue and supports breakthroughs in diagnostics, treatment planning, personalized medicine, digital health, and public health analytics. Industries, hospitals, and social impact investors are invited to engage in this collaborative forum. Sponsors gain long-term branding, strategic networking, and access to a growing AI-health ecosystem spanning academia, clinical practice, and startups.

Call For Papers

High quality, unpublished research works are invited in all areas of AI in Healthcare, including but not limited to the following:

Track 1: Smart Computational Medicine

AI in Diagnostics and Clinical Decision Systems, Decision Support in Emergency Care Settings, Federated Learning in Multi-Source Healthcare Systems, Multimodal Data Integration, Predictive Analytics in Resource-Constrained Environments, Early Warning Systems for Critical Care, Computational Techniques for Gynecology, Pathology, Radiology & Radiotherapy, Simulation and Modeling for Surgical Planning, Reinforcement Learning in Robotic Surgery, Computational Modeling in Public Health and Epidemiology

Track 2: High Performance AI in Healthcare

Distributed and Parallel Computing in Biomedical AI, GPU/TPU Accelerated Healthcare Applications, Privacy-Preserving AI, Scalable Architectures for Hospital-Scale Data, Edge-AI and Deployment on Constrained Devices, Real-Time Processing in Emergency or Critical Settings, Optimization of Deep Learning Models for Clinical Workflows, Benchmarking and Reproducibility in Large-Scale Health AI, High-Throughput Biomedical Simulations, Quantum Computing Prospects in Health AI, Senors & IoT for PMR, Gastroenterology etc.

Track 3: AI & Computer Vision

Image Classification & Object Detection, Medical Imaging & Diagnostics, Video Analysis & Action Recognition, Facial Recognition & Emotion Detection, Data Annotation & Dataset Curation, Vision Transformers in Healthcare, Explainable AI in Medical Vision Systems, Multi-modal Vision, Real-time Edge-based Medical Vision Systems, 3D Reconstruction & AR/VR Applications in Surgery

Track 4: AI & Natural Language Processing

Classification & Named Entity Recognition (NER), Sentiment Analysis & Opinion Mining, Chatbots & Virtual Assistants in Healthcare, Clinical Text Mining & Document Classification, Automatic Speech Recognition for Health Applications, Large Language Models (LLMs) in Clinical Decision Support, Multilingual Medical NLP, Prompt Engineering & Fine-Tuning, Temporal NLP in Electronic Health Records (EHRs), NLP for Mental Health Assessment, NLP for Immunity prediction

Track 5: AI & Bioinformatics

AI for Multi-Omics Data Integration (Genomics, Proteomics, Metabolomics), Predictive Models for Personalized Genomics, Causal Inference and Counterfactual Reasoning, Graph Neural Networks in Medicine, Generalization Across Clinical Environments, Trustworthy and Interpretable AI, Synthetic Data and Rare Disease Modeling, Fairness-Aware and Bias-Mitigation Algorithms, Learning from Limited Labels in Clinical Data, Robust Evaluation and Regulatory Alignment

The conference aims to equip participants with key insights from the Pre-Conference Tutorial on AI and ML in Healthcare and expert talks by speakers from institutions like University of Utah, IIIT Hyderabad, IITs, IISc, Meta, NVIDIA, NUS Singapore, CMC Vellore, AIIMS, SCTIMST, MVRCCRI Calicut, and Government Medical College Calicut. It is expected to foster interdisciplinary collaboration, inspire practical innovation, and support the development of scalable, technology-driven solutions for healthcare.

- Proceedings: All accepted papers, whose author(s) register, would be included in the conference proceedings to be published by Springer International Publishing (permission awaited).
- There will be pre-conference tutorials on December 09, 2025.
- For latest information, please visit <https://www.aihc2025.nitc.ac.in/>

Important Dates

Paper submission: August 31, 2025
Acceptance notification: October 15, 2025
Camera-ready submission: Nov 01, 2025
Conference : Dec 10-12, 2025



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