ComSIA-2025
International Conference on Computing Systems and Intelligent Applications

Organized **by School of Open Learning, University of Delhi & Shaheed Rajguru College of Applied Sciences for Women, University of Delhi**
28-29th March 2025.

********** CALL FOR PAPERS **********

SPECIAL SESSION ON
AI in Healthcare and Biomedical Applications

SESSION ORGANIZERS:
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SESSION DESCRIPTION:
Special Session: AI in Healthcare and Biomedical Applications

The special session, **AI in Healthcare and Biomedical Applications**, addresses the revolutionary impact of artificial intelligence on modern healthcare systems and biomedical research. As these technologies rapidly evolve, their integration into healthcare offers unprecedented opportunities for

enhancing patient care, streamlining diagnostics, personalizing treatment plans, and accelerating drug discovery. This session aims at providing a forum for researchers, clinicians, data scientists, and engineers to come together and share the latest advances, challenges, and directions in the field of AI in the medical domain.

It will include a number of key focus areas such as AI applications for diagnostics in medical imaging which might be using CT, MRI, or X-rays; NLP and electronic health records; predictive analytics of disease progression; real-time monitoring of health using wearable devices; and the machine learning-related relevance of AI in personalized medicine. The session will then also debate the ethical implications and challenges related to data privacy and regulatory issues regarding deploying AI in healthcare environments.

New methodologies and applications for introducing new methodologies and applications, including emphases on deep learning, transfer learning, and reinforcement learning models in biomedical data, will be presented. The discussants include topics on explainable AI, AI-based drug discovery, and the role of AI in optimizing healthcare delivery systems.

Objectives:
Present newly designed AI-driven innovations in healthcare and biomedical research.
Discussing the use of AI in medical imaging, diagnostics, treatment optimization, and patient management.
- Provide examples of how AI is used to address healthcare challenges: To illustrate early disease detection, resource efficiency, and personalized medicine.
Review the ethics, regulatory, and data privacy issues related to AI-based healthcare applications.

This session will facilitate cross-disciplinary collaboration, unlocking innovation thinking and research into methodologies that could redefine the future of healthcare by transforming it through AI core processes.

RECOMMENDED TOPICS:
Topics to be discussed in this special session include (but are not limited to) the following:

1)"Deep Learning for Early Detection of Lung Cancer Using CT Scans"

Topic : Application of convolutional neural network in medical images to detect the stage of lung cancer at an early stage.

2)"AI-Driven Personalized Treatment Plans in Oncology: A Comparative Study"

Topic : AI modeling for making personalized recommendations on cancer treatment based on patient information.

3)"Transfer Learning for Better Accuracy of Diagnostics of MRI and CT Images"

Topic : Application of the transfer learning process to improve the accuracy in the diagnosis of MRI and CT images.

4) "AI-Powered Prediction of Diabetic Retinopathy Progression Using Fundus Images"

Focus: Using deep learning to predict disease progression in diabetic patients based on retinal images.

5) "Natural Language Processing for Automated Medical Record Analysis and Disease Prediction"

Focus: Using NLP techniques to analyze electronic health records and patient outcomes.

6) "AI for Drug Discovery: Accelerating the Search for New Therapeutic Molecules"

Focus: Using AI, and machine learning-based models to optimize drug discovery and design processes.

7) "Explainable AI for Healthcare: Interpreting Deep Learning Models in Medical Imaging"

Focus: Developing explainable AI models that would guarantee trustworthiness and transparency of disease diagnostics through healthcare.

8) "Real-Time AI-Driven Wearable Devices for Continuous Monitoring of Cardiac Health"

Focus: Real-time monitoring through an AI algorithm and the detection beforehand, through wearable sensors, of cardiac anomalies that might indicate or cause anomalies.

9) "AI-Based Predictive Analytics for Sepsis Detection in ICU Patients"

Focus: Machine learning algorithms for early detection of sepsis in intensive care unit patients based on vital signs and lab results.
10) "Reinforcement Learning in Personalized Diabetes Management: A Case Study"

Focus: Optimisation, Reinforcement learning of insulin dosage and dietary recommendations for diabetic patient.

SUBMISSION PROCEDURE:

Researchers and practitioners are invited to submit papers for this special theme session on **"AI in Healthcare and Biomedical Applications"** ***on or before*** **[insert due date]**. All submissions must be original and may not be under review by another publication. INTERESTED AUTHORS SHOULD CONSULT THE CONFERENCE'S GUIDELINES FOR MANUSCRIPT SUBMISSIONS at https://comsia.in/paper_submission.html. All submitted papers will be reviewed on a double-blind, peer review basis.

NOTE: While submitting paper in this special session, please specify [**AI in Healthcare and Biomedical Applications**] at the top (above paper title) of the first page of your paper.

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