Special Session on

Explainable Artificial Intelligence for Healthcare 5.0

in conjunction with

23rd International Conference on Intelligent Systems Design and Applications (ISDA)

December 11-13, 2023

Website: http://www.mirlabs.org/isda23

Hybrid Mode – Online & Offline

Onsite Venues: http://mirlabs.org/isda23/venue2.php

Objectives and Scope

The application of artificial intelligence (AI) in healthcare has shown good promise in improving diagnostic accuracy, treatment planning, and patient outcomes. AI-driven systems have demonstrated the ability to outperform human experts in specific analytical tasks, such as image recognition and pattern detection. However, a significant concern surrounding AI integration in healthcare is the lack of explainability. It refers to the ability of AI systems to provide clear and understandable reasons for their decisions or predictions. It allows users, such as healthcare professionals, patients, or regulatory authorities, to comprehend the rationale behind AI-generated outputs. Explainable AI systems can explain the logic of decisions, characterize the strengths and weaknesses of decision-making, and provide insights into their future behavior. AI models can be highly accurate and efficient, and challenging to understand how these models arrive at specific conclusions. This lack of transparency raises critical issues from a technological perspective and medical, legal, ethical, and societal standpoints.

Healthcare 5.0 focuses on real-time patient monitoring, ambient control and wellness, and privacy compliance through assisted technologies like artificial intelligence (AI), Internet-of-Things (IoT), big data, and assisted networking channels. However, healthcare operational procedures, verifiability of prediction models, resilience, and lack of ethical and regulatory frameworks are potential hindrances to realizing Healthcare 5.0. It interconnects millions of IoT-based sensors communicating data through fifth-generation (5G) network infrastructure to provide digital wellness, smart healthcare, and improved healthcare metrics. 5G and IoT combined with AI form a scenario where smart mobile wearables are integrated with mobile communication and medical technologies for easy and remote healthcare delivery. Advanced IoT devices attached to patients collect medical vitals, monitor progress, and diagnose health conditions to doctors/medical institutions without significant human interaction.

In this special issue, authors are encouraged to submit their research articles (case study, original research article, and review/survey) with the aim of explainable AI – data or models.

Subtopics
The topics include, but are not limited to:

- Explainability and interpretability in AI decision support systems

- Use explainable AI for Healthcare
- Causality of AI models
- Risk assessment using explainable AI
- Use explainable AI to make predictions for Healthcare
- Explainable AI, big data, and decision support systems
- Explainable AI and Internet of Things for the medical domain
- Explainable methods for deep learning architectures
- Measuring explainability in healthcare

Paper publications

- Proceedings will be published in Lecture Notes in Networks and Systems, Springer (https://www.springer.com/series/15179)
- Indexed by SCOPUS, INSPEC, WTI Frankfurt eG, zbMATH, SCImago
- Paper maximum length is 10 pages
- Papers must be formatted according to Springer format (Latex/word) available at: https://www.springer.com/de/authors-editors/book-authors-editors/manuscript-preparation/5636#c3324
- Submission Link: http://www.mirlabs.org/isda23/submission.php

Important Dates

Paper submission due: **September 30, 2023**

Notification of paper acceptance: **October 31, 2023**

Registration and Final manuscript due: **November 10, 2023**

Conference Date: **December 13-15, 2023**

Special Session Chair(s)

- **Dr. Shankru Guggari**, KLE Technological University, Hubballi, India
- **Prof. (Dr.) Ajith Abraham,** MIR Labs, USA
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