

TITLE OF SPECIAL SESSION

Deep Learning and Explainable AI in Healthcare and Medical applications

OBJECTIVE OF THE SPECIAL SESSION

As the use of deep learning-based methods grows, so does the demand for their explainability, particularly in high-stakes decision-making. Explainable AI (XAI) emphasizes proactively making conventional AI models more comprehensible by using the models' decision-making and forecasting outcomes. The explainability factor gives black-box approaches novel prospects and gives healthcare professionals the confidence to interpret machine learning (ML) and deep learning (DL) models. Healthcare explainable AI has pushed value-based therapy and motivated healthcare professionals to prioritize results over service volumes. For instance, XAI algorithms examine information about patients to identify people who are more likely to develop particular conditions. By doing this, healthcare professionals can take action before a condition worsens. The application of XAI in healthcare is expected to lead to a greater democratization of data, giving people greater influence across their knowledge and the manner in which it is used.

The objective of this session is to establish a platform for a comprehensive overview of every aspect of Explainable Deep Learning Techniques in the field of health care and medicine. This session aims to make the recently emerged topics of Deep Learning and explainable AI in health care and medicine accessible to wide researchers by discussing a wide range of practical applications. The availability of models that are explainable and interpretable is a first step towards creating an environment of openness and responsibility in health care. The disciplines of Artificial Intelligence, Neural Networks, Deep Learning, Machine Learning, Computer Vision, Interactive Computing, and healthcare Sciences ought to benefit from this.

TOPICS OF THE SPECIAL SESSION

- Deep Learning and Explainable AI in Healthcare
- Explainable Deep Learning Models for Healthcare
- Explainable AI and deep learning-based image analysis
- Medical informatics and decision support with explainable AI and Deep learning
- Deep Learning and Explainable AI in Predictive Maintenance
- Explainable AI and Deep learning in Diagnosis and Surgery
- Explainable AI-empowered cognitive health assessment.
- Context-sensitive, human-centric XAI algorithms, and human-in-the-loop for healthcare
- Empirical studies of human-centric XAI applications in healthcare and medical informatics.
- Role of fuzzy knowledge representation in XAI for Healthcare

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