Tentative Outline

Special/Thematic Issue for the Journal
Recent Advances in Computer Science and Communications

Computational AI: A paradigm shift in Artificial Intelligence and Applications

Guest Editor: Dr. Charu Gupta

Scope of the Thematic Issue:

Cognitive Modelling is a computational model that hinges upon psychological notions, demonstrating how people go about problem-solving and performing tasks. Its purpose is to predict users behaviours with respect to the tasks. In recent years there has been a lot of progress made in the fields of Artificial Intelligence and thus a lot of apps and websites and other computing tools have been made using these eg the virtual assistant provided in phones and computers like Cortana for Windows and Siri for iOS. However we don't know why AI makes the decisions it makes or things that it predicts. It's like a black box where the processing is opaque and hence it is really difficult to understand how AI predicts or makes decisions because in some cases a wrong decision even by a minor point can lead to heavy losses like in the finance industry or fatal issues in the medical industry. Therefore there is this need to develop a computational tool which can explain all this and here's where explainable AI comes into the picture. Explainable AI (XAI) is a set of tools and frameworks to help humans understand and interpret predictions made by the machine learning models and thus enabling human users to trust appropriately and effectively manage it. The proposed special issue aims to handle a few important challenges that still remain in answering the questions like should our models be static or developing?, should we be able to say something about the nature of our models? And should we be able to say something about simplicity, completeness, complexity, theory of knowledge, explanation, The major challenge for XAI is in formalization of prominent problems. Some questions are so complex and multidimensional that they are hard to put down in a formal way. The proposed special issue aims to address the following topics but not limited to: Computational models Decision making Human machine interaction Deep Learning adaptive Intelligence Cognitive architecture Dynamic Systems Deep Reinforcement Learning Federated Learning Experiential learning.

Keywords: AI/ML, Metaheuristic, Fuzzy Logic.

Sub-topics:

- Artificial Intelligence
- Computational Modelling
- Soft Computing

Schedule:

➢ Complete Thematic issue submission deadline: **December 30, 2023**

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