Special Issue

Logic Reasoning in Machine Learning Through Data-Knowledge-Driven: Methods and Applications

Message from the Guest Editor

Logic reasoning in machine learning through data-knowledge-driven approaches bridges data-driven models and knowledge-based reasoning, enhancing interpretability, accuracy, and context-awareness in decisions. This Special Issue invites original research and review articles on methods and applications of logic reasoning in machine learning via data-knowledge-driven frameworks. Papers are solicited on topics including, but not limited to, the following areas: State-of-the-art methods for integrating data- and knowledge-driven logic reasoning; Techniques to enhance model interpretability through logical reasoning; Applications in healthcare, finance, or autonomous systems; Symbolic knowledge representation frameworks; Hybrid models merging neural networks with logical reasoning; Evaluation metrics for reasoning performance; Case studies on data-knowledge-driven reasoning effectiveness; Advances in automated theorem proving for machine learning; Knowledge graph integration for logical reasoning; Uncertainty management in reasoning systems; Natural language processing.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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