

CALL FOR PAPERS

IEEE Transactions on Emerging Topics in Computational Intelligence Special Issue on Digital Trust for Artificial Intelligence

I. AIM AND SCOPE

Artificial intelligence (AI) is a booming technology, which stimulates enterprise innovation, presents a range of possibilities for business, and delivers enormous benefits to companies that successfully leverage its power. AI has been gradually changing and improving our daily lives in a number of ways and has been applied in various fields, including finance, healthcare, retail, education, transportation and manufacturing etc. However, beyond the advancements, a big question posed for the use of AI is “trust”. For example, people may not be aware that their data is collected and used for AI solutions. The output of AI solutions may be biased or deemed irrelevant and unexplainable. The concerns about the “trustability” of AI-enabled products and services influence the development pace of AI in practice. Establishing digital trust for AI is challenging and yet unavoidable for maintaining competitiveness in the future economy.

Digital trust involves several important areas including privacy, security, reliability, fairness, accountability, transparency and ethics. It is critical to investigate how to build “trusted” AI systems from every area of trust through data governance and algorithm design using computational intelligence. Besides, it is important to have a good understanding of how these factors interact among one another, which is a less explored space in the research community. For example, improving privacy in AI by incorporating privacy-preserving techniques, such as differential privacy, may sacrifice fairness while potentially enhancing robustness. In addition, AI systems present unique challenges for user trust due to their complexity and unpredictability. However, the task of understanding and evaluating factors that enhance user trust in AI is extremely important to realize the benefits and minimize the risk of using this technique.

This special issue aims to explore the trust issues in AI services and to provide a platform for advancing theoretical and practical approaches, strategies, solutions, and applications that can build digital trust for AI services. The special issue will provide inputs into decision support/making for disruptive AI-driven environments.

II. TOPICS

The topics relevant to the special issue include (but are not limited to) the following topics:

- Privacy and security attacks
- Trust management in AI systems
- Fuzzy Logic-based trust assessment
- Data governance frameworks and control mechanisms

- Fairness and bias mitigation
- Evolutionary computing for adaptive privacy-preserving
- Fair and robust algorithm design
- Secure data aggregation for model training
- Transparency and accountability in AI-enabled decision support
- Explainable AI techniques for digital trust
- Ethical decision-making model construction
- Hybrid computational model for trustworthy decision-making
- Innovative architectures, techniques, and infrastructure for trustworthy AI
- Trustworthy AI applications across diverse fields including Healthcare, Education, Finance, etc.

III. SUBMISSIONS

Manuscripts should be prepared according to the “Information for Authors” section of the journal and submissions should be done through the journal submission website: <https://mc.manuscriptcentral.com/tetci-ieee>, by selecting the Manuscript Type of “ Digital Trust for Artificial Intelligence ” and clearly marking “ Digital Trust for Artificial Intelligence ” as comments to the Editor-in-Chief. Submitted papers will be reviewed by at least three different reviewers. Submission of a manuscript implies that it is the authors’ original unpublished work and is not being submitted for possible publication elsewhere.

New author portal:
<https://ieee.atyponrex.com/journal/tetci-ieee>

IV. IMPORTANT DATES

- **Submission deadline:** December 1, 2024
- **Notification of first review:** March 1, 2025
- **Submission of revised manuscript:** May 1, 2025
- **Notification of final decision:** July 1, 2025

V. GUEST EDITORS

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