Call for Papers

Fairness, Accountability, Transparency, and Ethics with AI/ML in Networking and Information Technology (AIFate 2023)

One day Artificial Intelligence (AI) and its Machine Learning (ML) were a field of intelligent decision-making in computers, limited to academia. But now they are increasingly becoming mainstream, being used everywhere in more vigorous, visible, and impactful ways in networking, information technology & systems. Most aspects of our lives are now touched by AI/ML in one way or another, from data acquisition to decision-making, such as what books or flights to buy online, whether we receive a bank loan, what treatment we receive for cancer, what the best way to route data, how faster a node or network can compute and provide a decision, how to enable process automation, etc. While this emergent, highly cross-disciplinary focused field presents huge opportunities, it comes with unique challenges and risks, particularly regarding fairness, accountability, transparency, and ethics (FATE for short) in networking and information technology (NIT). Nearly every stage of the AI/ML pipeline—from task definition and dataset construction to testing, deployment, and decisions—is vulnerable to biases, inequality, irresponsibility, unethicality, and untrustworthiness that can cause a system or technology to, at best, underestimate users or events and, at worst, disadvantage already disadvantaged users or events.

This Special Session welcomes research papers on broad aspects of AI/ML with FATE theory and practice in networking and information technology, including, but not limited to, the following topics:

Track 1: FATE with AI/ML in Networking

- Computing, communication, & decision-making in IoT/CPS/Cloud/Edge/Fog platforms
- Networked sensing, network automation, and generative networking
- Cybersecurity, cyber defense, cyber tools, and ethical hacking
- Autonomous systems, smart & connected vehicles, & intelligent networks in 6G
- Human-AI collaboration, human-robot interaction, HCI
- AI/ML-based mobile computing & networking and Bigdata intelligent networking
- Interplay between AI/ML & in-network and networked computing
- Blockchain-envisioned networking: drones, 5G-enabled flying automation, private blockchain
- Smart healthcare system and networking, data sharing, and collaboration
- Industrial IoT & edge intelligence in smart cities
- Privacy, authentication, and biometric system
- Software coding and IT processes and predictive analytics
- Quantum computing, communications, & networking
- ANN, deep learning, reinforcement learning, and federated learning and optimizations
- Trustworthy, responsible, interpretable, explainable, causal, neutral (unbiased), and ethical AI/ML
- Measurement, assessment, and verification techniques

Track 2: FATE with AI/ML in IT

- Emerging AI/ML technologies: ChatGPT, Chatsonic, Generative AI, AutoML, etc.
- Humanity in AI/ML, manipulation of human facts with AI/ML
- Cognitive, social, and smart healthcare, health data analysis, data quality
- Recommendations and recommender systems
- Algorithmic and programming bias, fairness, and violation
- Unfairness, biases, & discrimination in decision-making and policy automation
- AI/ML in data science, big data, and predictive analytics
- Data security and privacy, data scarcity, and data trust deficit
- Machine reasoning under unfairness, uncertainties, and abnormal features
- AI/ML models and tools, black box modeling & algorithms
- NLP, knowledge representation, and computer vision
- Harmfulness, effects, impacts, risks, and dangers of unregulated AI/ML
- Trustworthy, responsible, interpretable, explainable, causal, neutral (unbiased), ethical AI/ML
- Transparency in ethics of AI/ML, transparency assessment, and assurance
- FATE in integration: AI & blockchain, AI & Gaming, AI & Media
- FATE case studies of AI/ML models in cross-domains (e-commerce, marketing, banking, law, HCI, sociology, anthropology, media studies, political science, medical science, etc.)

Paper Submission Guidelines

The submitted papers can be either full papers or short papers. A full paper would be processed as a regular paper (6-8 pages) or a short paper as a workshop paper (4-6 pages). This should include figures and references and should be prepared according to IEEE CS Proceedings format. The author should indicate a regular or short paper during the submission. Submitted papers will be thoroughly peer-reviewed. The materials presented in the papers should not be published or under submission elsewhere. Submission of a paper implies that should the paper be accepted, at least one of the authors should register at the full conference rate and present the paper in-person at the conference (exceptions require prior approval). All papers must be submitted electronically via Easychair. Accepted papers will be included in the CyberSciTech 2023 conference proceedings and published by IEEE-CS CPS (IEEE-DL and EI indexed). Extensions of selected high-quality papers will be recommended to the prestigious journal Special Issues.

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Submission through the Easychair:
https://easychair.org/my/conference?conf=dascpicomcbdcomcyber0

Important Dates:
- Paper Submission Due: Sept. 15, 2023
- Authors Notification: September 15, 2023
- Camera-ready Submission: September 30, 2023

Organizer:
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