

Advanced Artificial Intelligence for Internet of Autonomous Things

The rapid advancement of Artificial Intelligence (AI) and the proliferation of interconnected devices in the Internet of Things (IoT) have paved the way for a new era of autonomous systems. These systems, collectively known as the Internet of Autonomous Things (IoAT), hold immense potential to transform industries, revolutionize daily life, and address pressing societal challenges. As AI continues to mature and IoT devices become increasingly pervasive, there is a growing need to explore the synergies between these technologies and their implications for the future of autonomy. The AI in IoAT unleashes a wave of innovation that promises to redefine the way we interact with technology and the world around us. These AI-driven autonomous systems serve as the vanguard of progress, revolutionizing efficiency, safety, and functionality across a myriad of industries. From revolutionizing transportation through self-driving vehicles to optimizing healthcare delivery through remote patient monitoring, the potential applications are boundless.

However, as we navigate this technological frontier, we are confronted with a host of new challenges and opportunities. The design and implementation of AI-integrated IoAT systems require meticulous consideration of ethical, legal, and societal implications. Questions surrounding data privacy, algorithmic bias, and job displacement demand thoughtful deliberation and proactive measures to mitigate potential risks. Moreover, the widespread adoption of these technologies necessitates a concerted effort to bridge the digital divide and ensure equitable access to the benefits they offer. As we strive to harness the transformative power of AI and IoT for the betterment of society, inclusivity and accessibility must remain at the forefront of our endeavors. Nevertheless, amidst these challenges lie boundless opportunities for innovation and progress. The synergy between AI and IoAT has the potential to unlock unprecedented levels of efficiency, productivity, and sustainability. By harnessing the power of data-driven insights and autonomous decision-making, we can address pressing societal issues, from climate change to healthcare disparities, with newfound agility and efficacy.

As part of the prestigious 22nd IEEE International Symposium on Parallel and Distributed Processing with Applications (IEEE ISPA 2024), this special session aims to provide a dynamic platform for academics, researchers, and industry professionals to exchange insights, research findings, and innovative ideas on the development and application of AI and IoT in autonomous systems. Participants will have the opportunity to discuss the technological breakthroughs, challenges, ethical considerations, and the future direction of these technologies.

We invite submissions that address the development, challenges, and opportunities of AI-driven IoT systems, including but not limited to:

- Deep learning algorithms for autonomous decision-making in IoT devices.
- Edge computing and AI integration for real-time processing in autonomous systems.
- AI-driven optimization techniques for energy-efficient IoAT deployments.
- Machine learning approaches for anomaly detection and predictive maintenance in autonomous devices.

- Ethical considerations and societal impacts of AI-enabled IoAT solutions.
- Security and privacy challenges in AI-driven autonomous systems.
- Applications of reinforcement learning in autonomous IoT environments.
- Impact of autonomous systems in smart cities, healthcare, transportation, and beyond
- Human-machine interaction and collaboration in autonomous systems

Accepted conference papers will be published by IEEE (IEEE-DL and EI indexed). Selected papers, after further extensions and revisions, will be recommended to journal special issues. More details at the conference website: <https://www.ieee-ispas.org/2024/ispas/>. Please submit your paper via the submission site (Coming soon) and select the special session of “Advanced Artificial Intelligence for Internet of Autonomous Things” marked with “ISPAIAT”.

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Important Dates

Paper Submission Due: July 01, 2024

Acceptance Notification Due: August 01, 2024

Final Manuscript Due: September 01, 2024