

Introducing cutting-edge features like seamless interaction with the devices bringing new use cases, predictive maintenance and automated device optimization, and AI/GenAI can enhance security, privacy, and verification of the goodness of AI for consumer devices by behavior analysis, anomaly detection, biometric authentication, data encryption, and threat detection. By combining AI/GenAI technologies, security and privacy measures on consumer devices can be significantly improved, offering users a safer digital experience. AI automates device provisioning, monitoring, and maintenance tasks, ensuring devices operate efficiently and effectively. It also analyzes user data to optimize device performance, personalize user experiences, and improve energy efficiency. The special issue focuses on leveraging artificial intelligence, particularly generative AI, in consumer electronics devices and services to enhance personalization and recommendation, such as tailoring user experiences through AI-driven recommendations, content generation, and seamless services.

TOPICS OF INTEREST

This special issue involves understanding the underlying features of the input data and creating outputs that mimic these patterns, enabling the generation of novel data points that align with the original dataset's characteristics. This pioneering Special Issue calls for submissions that delve into the realm of AI/GenAI-based consumer devices and services, and the topics covered include but are not limited to:

- AI/GenAI for a seamless environment and seamless experience
- AI/GenAI for mobility management and services
- AI/GenAI for secure multi-factor authentication and privacy-reserving techniques
- AI/GenAI serving new use cases for consumers (e.g., ehealth, elderly assistant, smart cities and smart homes new experience, new experiences for passengers in connected cars/buses, etc.)
- AI/GenAI-based innovative approaches for consumer devices predictive maintenance and resource optimization
- AI/GenAI-based personalized user experiences
- AI/GenAI-IoT-enabled cloud/fog/edge computing for consumer devices
- Big data analytics for consumer devices
- Generative AI applications and services
- Intelligent data sensing and processing in consumer devices
- LLMs optimization and new categories of LLMs fitting consumer devices
- Mechanisms for GenAI trust, accountability, compliance, and adoption

AUTHOR GUIDELINES

IEEE Consumer Electronics Magazine (CEM¹) publishes peer-reviewed articles that present emerging trends, key insights, tutorials, practical experiences, design, and industry-related research & developments of mainstream consumer electronic products, technologies, and related fields of interest to the membership of the IEEE Consumer Technology Society (CTSoc) and broad engineering audience. CEM aims to educate and entertain on general topics related to consumer technologies and electronic products. Submissions must follow IEEE CEM Template available in IEEE Template Selector², or the LaTeX template is also available on Overleaf³, and should consist of the followings: (i) A manuscript of minimum 6-page length (overlength page charges are listed below): A PDF of the complete manuscript layout with figures, tables placed within the text, and (ii) Source files: Text should be provided separately from photos and graphics and may be in LaTeX or Word format. High-resolution original photos and graphics (300 dpi) are required for the final submission. Images embedded in Word or Excel documents are not suitable; however, figures and graphics may be provided in a PowerPoint slide deck, with one figure/graphic per slide. The authors must own the copyright on any images, photographs or graphics or have obtained explicit permission for use of all such material when a third party owns the copyright. Alternatively, copyleft images and materials may be used once the relevant license terms are complied with, including citations to the original source/author. It is the responsibility of the author(s) to demonstrate such compliance and document the corresponding license agreements (a URL is sufficient) in notes accompanying the submitted article. The authors should include a PDF file with a suggested layout of the article. Figure captions must be provided and ideally figures/graphics should be cited in the text of the article. An IEEE copyright form will be required.

The manuscripts must be submitted online to the 'Special Issue on GenAI Role in Consumer Devices and Services' track using the IEEE CEM's IEEE Author Portal⁴. The IEEE Author Portal will automate the generation of a single submission document if the authors have the correct files prepared in advance.

OVERLENGTH PAGE CHARGES

Articles exceeding 6 pages during author proof will be charged at US\$ 250 per page for extra pages beyond first allowed 6 pages.

IMPORTANT DATES

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