IEEE Transactions on Consumer Electronics

Call for Papers

Special Section on "Generative Artificial Intelligence with Applications on Consumer Electronics"

Theme:

Consumer electronics are electronic equipment intended for everyday use, and they constitute a part of the wider electronics industry including devices and services used for entertainment, communications and recreation. In practice, consumer electronics use digital technologies to enhance performance in real-world applications, such as AI-generated content, chatbot, online retailing, automatic driving systems, fashion and apparel industry, etc., where the information in these applications usually generate a significant amount of high-quality data for creation of digital content, Semantic Comprehension or data generation and augmentation, etc. Recently, Generative Artificial Intelligence (GAI) has been gaining significant attention from society. For example, ChatGPT is a language model developed by OpenAI for building chatbot, which can efficiently understand and respond to human language in a logical and meaningful way. In addition, DALL-E-2 is another state-of-the-art GAI model, which is capable of creating unique and high-quality images from textual descriptions in a few minutes. In general, GAI techniques, as opposed to being created by human authors, is to automate the creation of large amounts of content such as images, music, and natural language, etc. Therefore, how to develop robust models for generative AI in this field of consumer electronics is of great importance.

Motivated by the above works, this special issue focuses on cutting-edge techniques to efficiently handle generative artificial intelligence with applications for consumer electronics, such as deep generative model, large-scale multimodal pretrained model, and computer vision-based solutions for generative learning in consumer electronics application scenarios etc. In addition, the aim of this special issue is to establish a platform to researchers from academia and industry institutions to present their theoretical and technological work to exchange scientific ideas, inspire new research work on consumer electronics.

Topics of interest in this Special Section include (but are not limited to):

- Deep generative model with their integration for consumer electronics devices
- Multi-model pretrained generative model with applications on AI generated content of creation for cons umer electronics
- Machine learning and deep learning-based computer vision and pattern recognition for consumer electr onics
- Generative model-based data generation and augmentation for industrial applications in consumer elec tronics
- Multi-modal generative model on virtual reality and metaverse for consumer electronics applications an d devices
- Computational intelligence optimization methods on generative model for engineering applications of co nsumer electronics

Important dates:

- End of submission of Manuscripts: September 30, 2023
- Expected publication date (tentative): Second Quarter, 2024

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Instructions for authors:

Manuscripts should be prepared following guidelines at: https://ctsoc.ieee.org/publications/ieee-transactions-on-consumer-electronics.html and must be submitted online following the IEEE Transactions on Consumer Electronics instructions: https://ctsoc.ieee.org/publications/ieee-transactions-on-consumer-electronics.html. During submission, the

Special Section on "**Generative Artificial Intelligence with Applications on Consumer Electronics**" should be selected.

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