Special Issue

Emerging Trends in Generative-AI Based Audio Processing

Message from the Guest Editor

Generative AI continues to transform audio processing through rapid advances in deep learning, signal modeling, and interdisciplinary applications. Beyond traditional domains like speech synthesis and music generation, research has expanded to include deepfake detection, audio watermarking, audio for embodied AI, and multimodal systems that integrate sound with text, vision, and haptic feedback. Meanwhile, emerging large-scale foundation models and novel architectures such as diffusion-based generators and transformer-based pipelines have presented new opportunities to synthesize and analyze audio in previously unattainable ways. This Special Issue aims to provide a comprehensive and forward-looking collection of innovative methodologies, theoretical advances, and real-world applications in generative AI for audio. We invite contributions spanning foundational research, rigorous evaluations, proof-of-concept prototypes, and production-level deployments to foster collaborative and multidisciplinary exchange among industry practitioners, academic researchers, and policymakers.

Guest Editor

Dr. Rita Singh

Center for Voice Intelligence and Security, Carnegie Mellon University, Pittsburgh, PA 15213, USA

Deadline for manuscript submissions

15 June 2026

MDPI

Electronics

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Message from the Editor-in-Chief

Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guestedited by leading experts in selected topics of interest.

Editor-in-Chief

Prof. Dr. Flavio Canavero
Department of Electronics and Telecommunications, Politecnico di Torino, 10129 Torino, Italy

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