Special Issue

Multimodal Sensing Fusion-Based LLM Agent Methods, System, and Applications

Message from the Guest Editor

The integration of multimodal sensor data with large language model (LLM) agents represents an important frontier in artificial intelligence as it combines heterogeneous streams of information to advance machine perception, reasoning, and interaction. LLM agents, which are trained on extensive and diverse datasets, have demonstrated strong capabilities in language understanding, contextual inference, and complex decision-making. When augmented with multimodal sensing that incorporates visual, auditory, speech, tactile, LiDAR, radar, physiological, and other forms of data, these agents can achieve more comprehensive situational awareness and higher adaptability in dynamic and uncertain environments. This Special Issue aims to bring together original contributions that explore methodologies, theories, and applications at the intersection of multimodal sensing and LLM-based intelligence, with particular emphasis on advances in multimodal fusion strategies, contextual reasoning, adaptive dialogue systems, collaborative and immersive applications, as well as cross-disciplinary approaches that contribute to the development of next-generation multimodal artificial intelligence.

Guest Editor

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