Special Issue

Detecting, Measuring, and Modelling Speech and Body Movements in Virtual Reality and Human–Robot Interaction

Message from the Guest Editors

Voice and body movements are essential in human-to-human oral communication. With the use of virtual reality and human–robot interaction in increasingly diverse and demanding situations, nonverbal elements have become critical to the development of these technologies. The integration of natural language processing and machine learning has enhanced the intuitiveness and efficiency of these interactions, thereby promoting their widespread adoption, though there is still a lot of research to be conducted. This Special Issue focuses on the detection, measurement, and modeling of speech and body movements within the contexts of virtual reality environments and human–robot interaction. It explores various strategies, including but not limited to the following: voice analysis, assessment, and elicitation techniques in virtual speech performances; the development and application of different voice synthesis methods tailored to various roles of voice assistants; the definition of optimal nonverbal behaviors for robotic interfaces; and advanced voice signal processing methods to enhance the auditory and interaction design of robots.

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