Special Issue

Harnessing Infant and Toddler Wearable Systems to Promote Development and Health

Message from the Guest Editor

Infancy and toddlerhood are periods of unparalleled growth and change, making continuous, objective monitoring in natural environments critical for understanding the complexity of typical development and detecting early signs of poor health. This special issue addresses the urgent need to bridge the divide between novel wearable and near-body sensing technologies and their meaningful application in pediatric health and developmental science. We invite contributions focusing on the full data lifecycle of unobtrusive monitoring systems for infants and toddlers: from the design of child-safe, multimodal hardware and robust data collection systems, through advanced signal processing and AI for extracting meaningful data, to thorough scientific validation and ethical frameworks. Submissions are strongly encouraged to demonstrate system generalizability and robustness across diverse cultural and socio-economic settings, particularly those enabling scalable, real-world assessment of both typical and atypical developmental trajectories. Our goal is to foster an integrated approach that leverages wearable technology to transform the landscape of how we understand early development.

Guest Editor

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

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