AI-Powered Resilient Mobile Health: From AI-RAN to Application

In conjunction with IEEE/ACM CHASE 2026
Pittsburgh, PA, USA • August 4–6, 2026

Overview

AI-powered resilient mobile health treats mobile health not as isolated applications but as end-to-end, safety-critical networked systems spanning sensing, edge/cloud intelligence, and wireless connectivity. As wearable, contactless, and ubiquitous sensing becomes pervasive, large-scale disruptions, mobility-induced congestion, and heightened privacy demands expose fragility in deployment pipelines—where latency, packet loss, service interruption, or unintended information disclosure can translate into clinical risk and degraded care delivery. In parallel, AI-RAN (Artificial Intelligence Radio Access Network) and the convergence of computation and connectivity create opportunities to provide stronger guarantees on reliability, low latency, and privacy for life-critical health workloads. This workshop emphasizes co-design of network architectures and mobile health applications, including AI-driven network resource management, semantics-aware communication, and privacy-preserving edge learning, while prioritizing reproducible and deployment-oriented research grounded in real-world clinical constraints.

Call for Papers

We welcome interdisciplinary contributions spanning mobile networking, AI/ML, sensing, and healthcare systems, including real-world deployment studies (including negative results and lessons learned), rigorous evaluations, and reproducible datasets/benchmarks that clarify assumptions, limitations, and clinical constraints.

Technologies & Approaches:

- Machine Learning for Mobile Health
- AI-RAN and Mobile Networking for Health
- Wearable and Implantable Sensing
- Edge/cloud orchestration for life-critical workloads
- Sensing-aware QoS and context-aware scheduling
- Network slicing and QoE/QoS guarantees
- Resource-aware on-device and federated learning
- Privacy, Security, and Trust in Health Data
- Federated Learning for Medical Applications
- Semantic communication for bandwidth efficiency
- HCI for Patients and Clinicians
- Real-Time Clinical Decision Support
- Digital Biomarkers and Phenotyping
- Mental Health Computing and Sensing
- Real-World System Deployments and Pilots
- Explainable AI (XAI) for Healthcare
- Energy-Efficient Sensing and Processing
- Public Health Surveillance
- Algorithmic Bias and Fairness
- Multi-Modal Sensor Fusion
- Contactless and Wireless Monitoring
- Reproducibility, Datasets, and Benchmarks
- Integration with EHR and Clinical Workflows
- Digital Therapeutics
- Negative Results in Health Systems
- Real-time anomaly detection

Applications:

- Remote patient monitoring and aging in place
- Clinical decision support at the edge
- Communication and social connectivity
- Health data modeling and analysis
- Health companion diagnostic and efficient digital phenotyping on mobile devices
- Chronic disease management and prevention
- Healthcare or therapy app design on smartphones, web, and VR/XR

IMPORTANT DATES

Paper Submission Deadline: March 16, 2026
Notification of Acceptance: April 7, 2026
Camera-Ready Submission: April 20, 2026
Workshop Date: August 6, 2026

Workshop Organizers

Dr. Yiwen Hu
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AUTHOR INFORMATION

Formatting: same as IEEE/ACM CHASE 2026 conference papers (IEEE proceedings format; double-column). Length: 4–6 pages including references.
Process: submissions via OpenReview with peer review. Publication: accepted papers will be presented at the workshop and published in the proceedings of CHASE 2026.

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