

SEZAKI LAB.

Urban Sensing and Ubiquitous Computing



Department of Informatics and Electronics

Information and Communication Engineering: GSIST
Socio-Cultural Environmental Studies: GSFS

Information and Communication Engineering

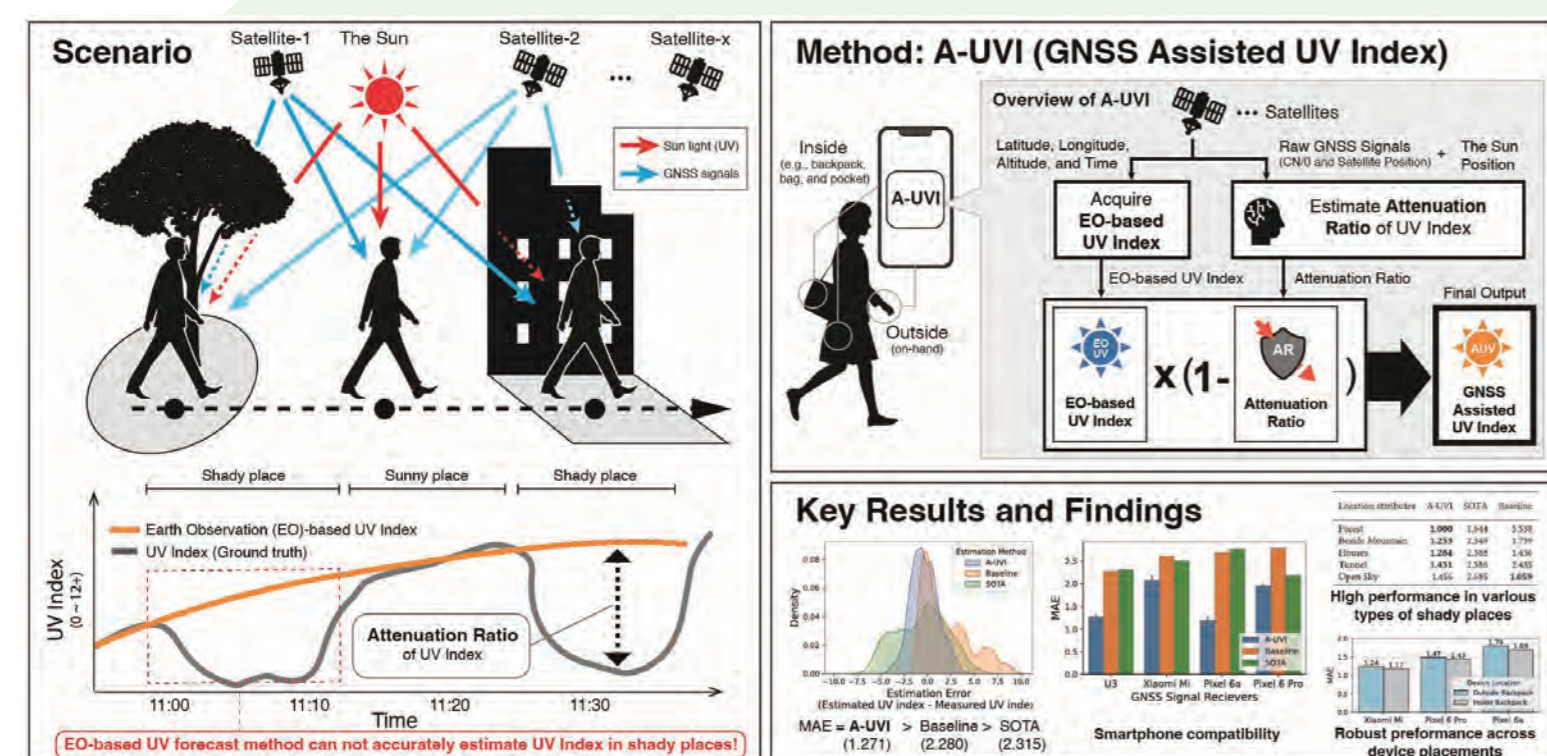
<https://www.mcl.iis.u-tokyo.ac.jp/>

Research topics:

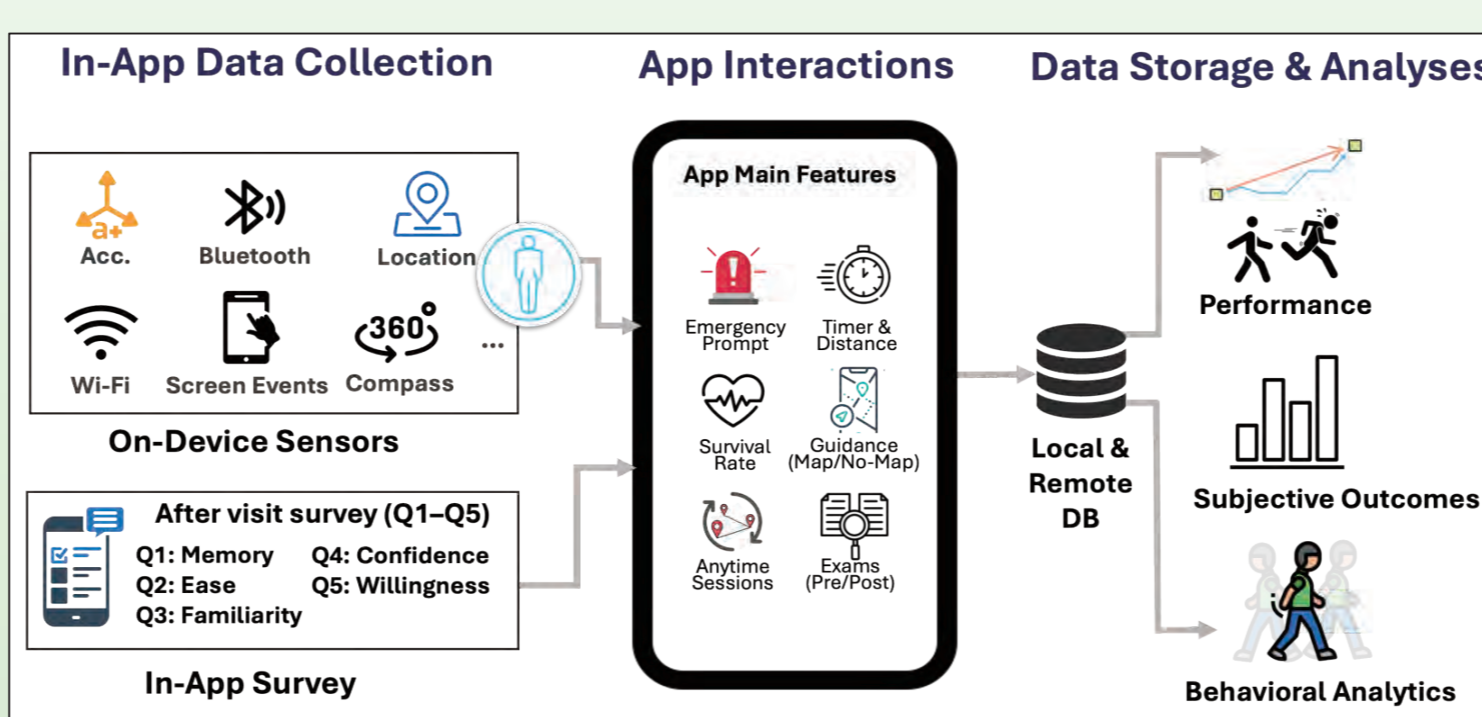
1. to consider the support of the creative social activities, which utilize networks, and the creation of new applications
2. to operate the network element, system technology and system development of various applications

Well-Being

UV index estimation leveraging GNSS signals available on smartphones and obstacle distribution around the user

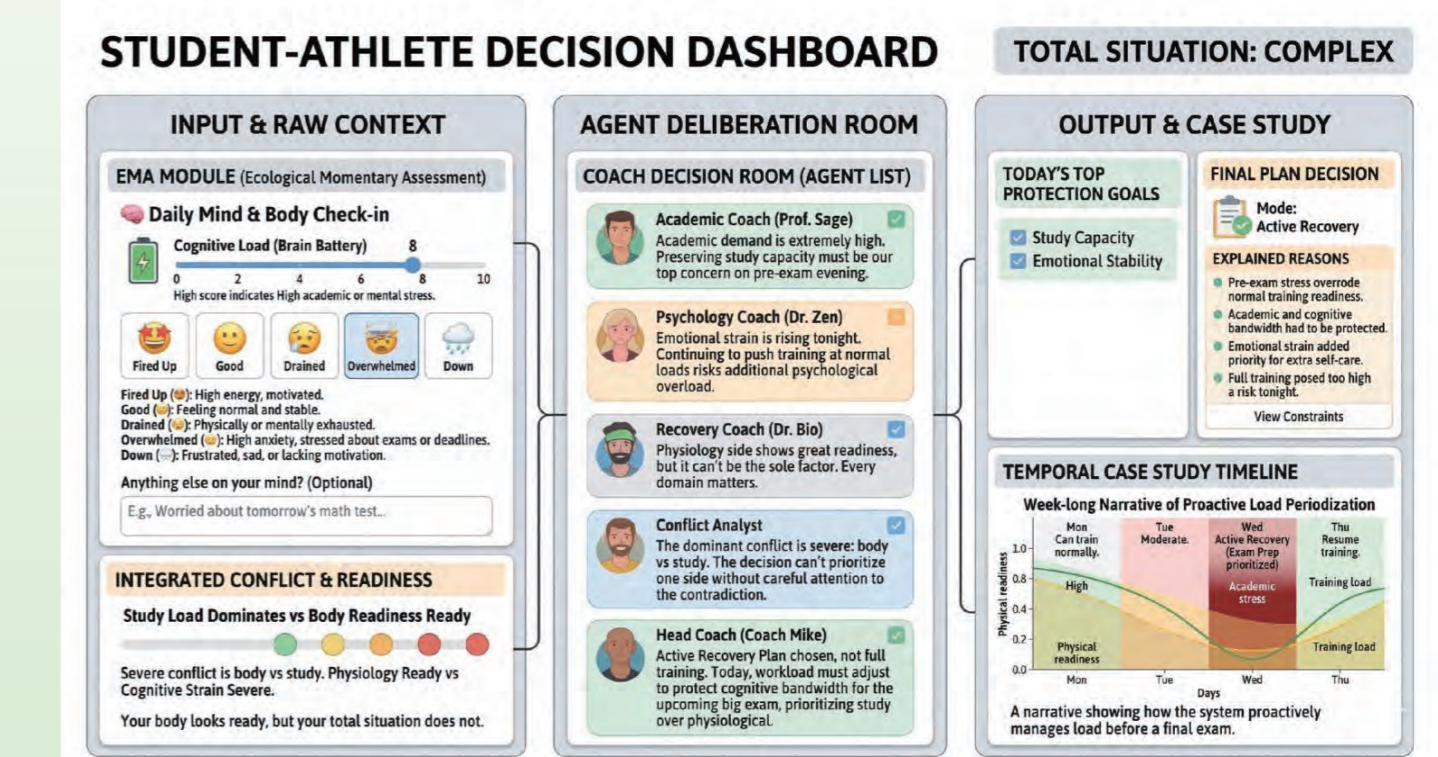


Gamification-based mobile application for improving AED retrieval skills



Behavioral Change

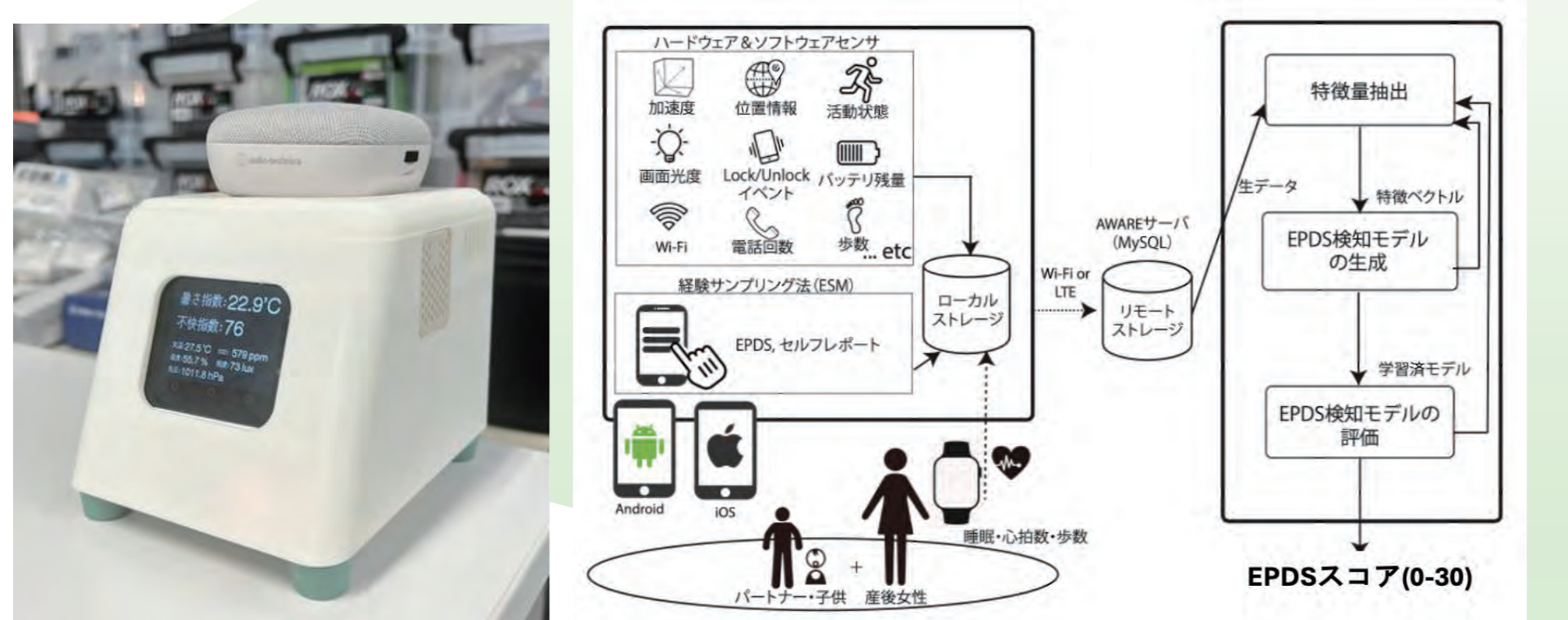
Sensing for detecting stress and recovery state of student-athletes



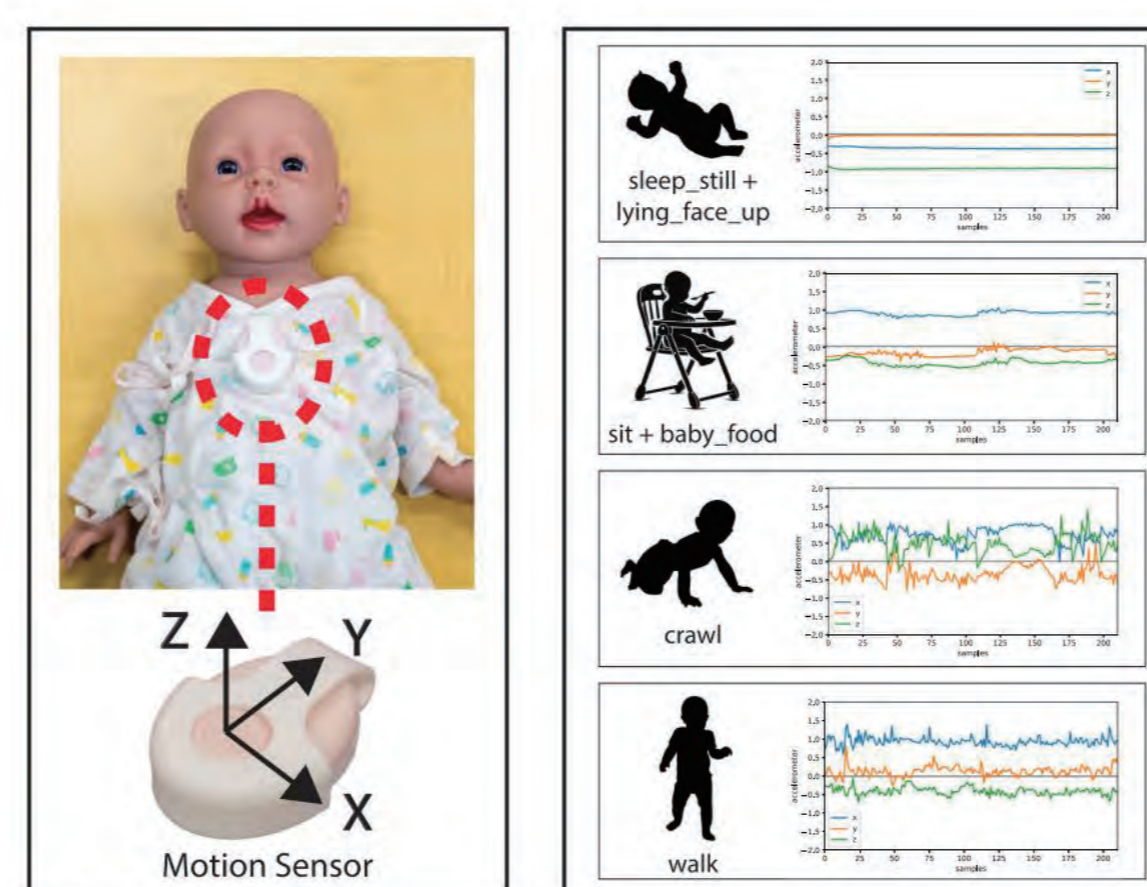
Societal Transformation

Mobile & Wearable Sensing

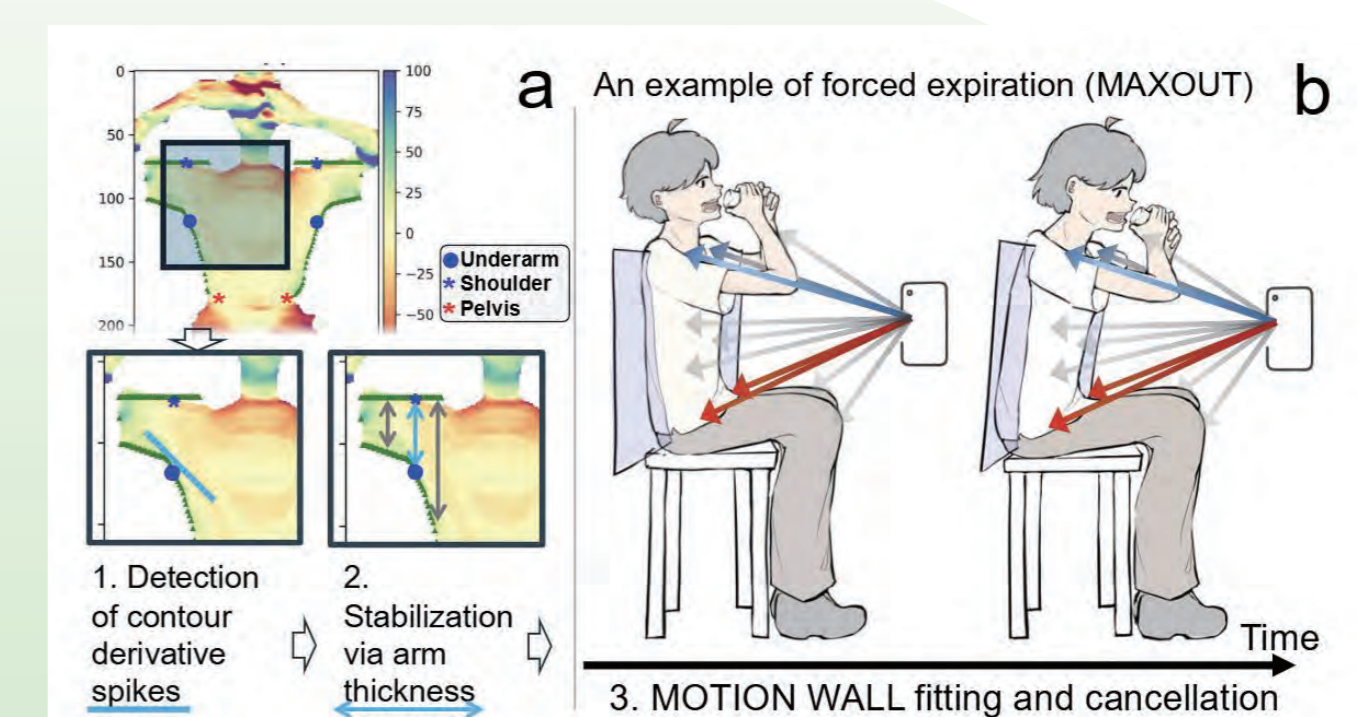
Detecting postpartum depression using indoor environmental sensors



Detecting childcare activities using wearable devices



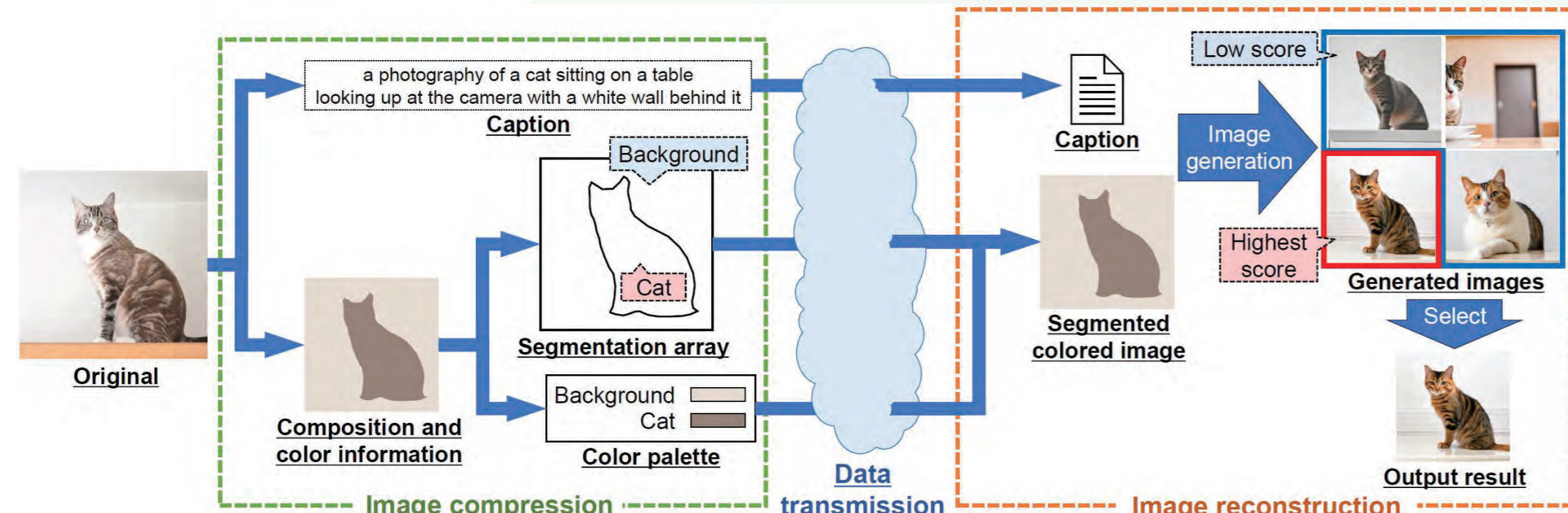
LiDAR-based pulmonary function sensing using commodity smartphones



Analysis & Estimation

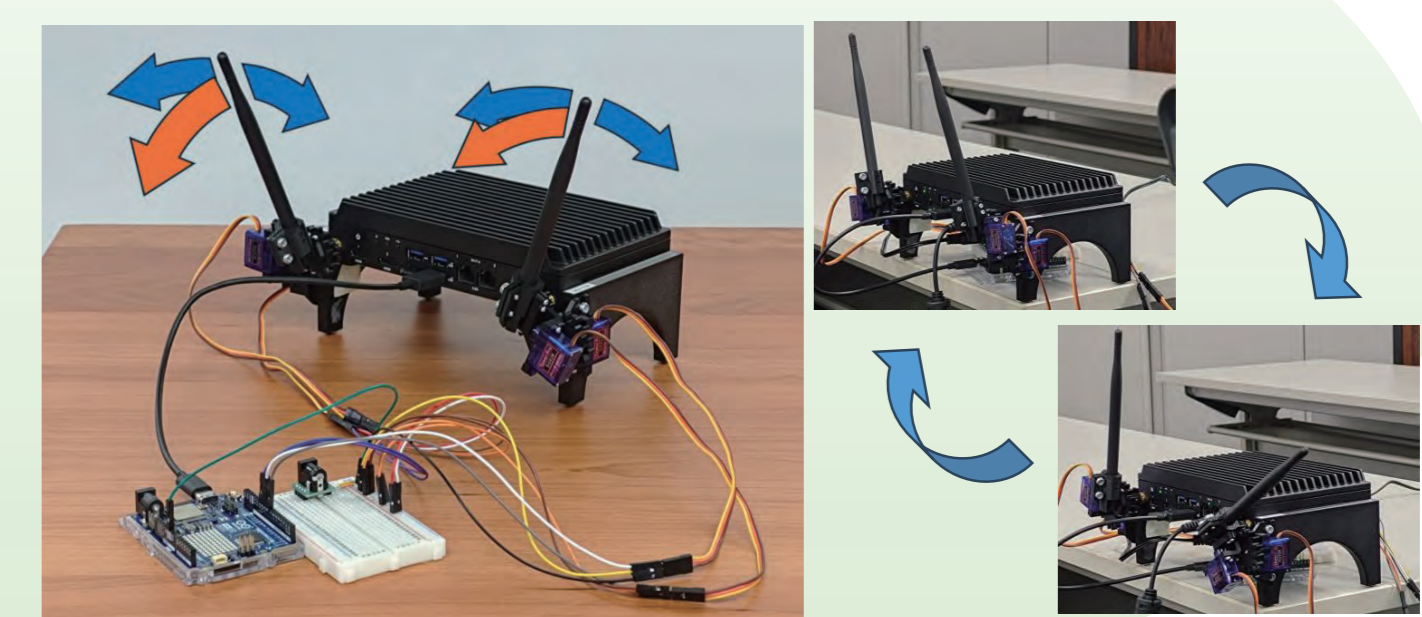
Semantic Communications

Semantic communication leveraging generative AI for capacity-limited networks



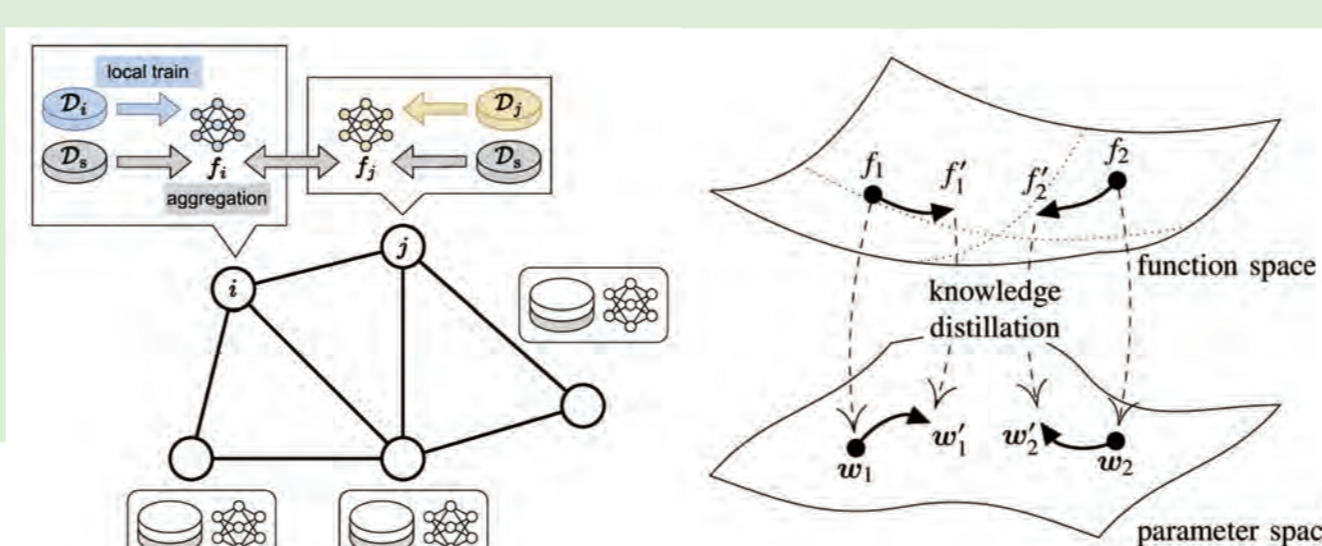
Mechanical Antenna for Wi-Fi

Motor-driven antenna orientation control for improving communication quality



Decentralized Federated Learning

Privacy-protecting distributed machine learning for IoT devices



Fundamental Technology

