SUSTAINABLE INTELLIGENT EVERYDAY OBJECTS

HOW TO POWER A TRILLION IOT DEVICES SUSTAINABLY?

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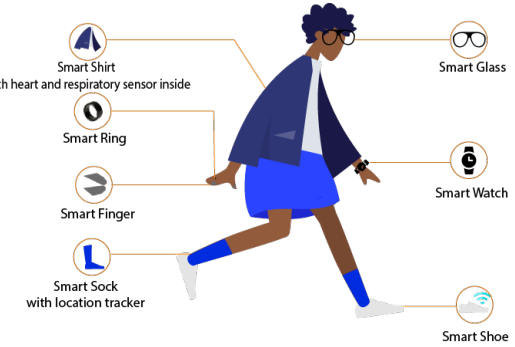
COMPUTING ON THE EXTREME EDGE

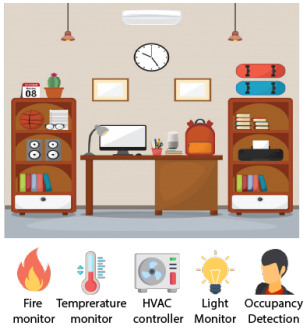
Insufficient Energy

Low Processing Capability

Stochastic Environment

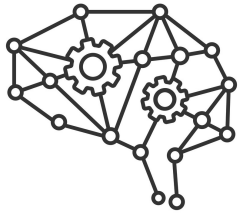
The future of sustainable computing will reshape how everyday objects will behave and influence human life by continuously learning human behavior, action, and environment.





(1) Zygarde:

Time-Aware Intelligent Battery-Free Systems
- Battery-free
- Real-Time On-Device Computation
- Imprecise Computing
- Deep Learning and Artificial Intelligence

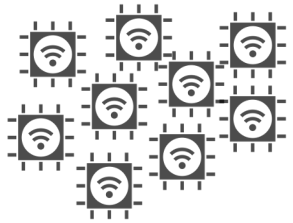


(2) Celebi:

Scheduling Computing and Harvesting Tasks
- Energy-Aware Scheduling Algorithms
- Consider Harvesting as a Task

(3) Falinks:

Distributed Time-Aware Battery-Free Systems
- Emulating Persistent Power System
- Swarm of Collaborative Nodes



Pedestrian Safety

Health Monitoring

Privacy Preservation

Design Space

Reliable

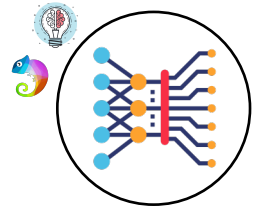
Intelligent

Programmable

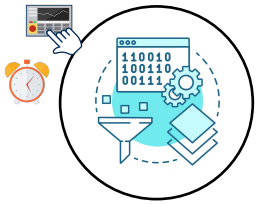
Self-Evolving

User-Friendly

Research Opportunities



On-Device Artificial Intelligence & Learning



Secure Real-time Platform

Adaptable to Application Domains