

15th International Conference on Ubiquitous Computing and Ambient Intelligence

UCAmI 2023

www.ucami.org

Riviera Maya, México

November 28 to 30th, 2023

Conference Background & Goals

The Ubiquitous Computing (UC) idea envisioned by Weiser in 1991, has recently evolved to a more general paradigm known as Ambient Intelligence (AmI) that represents a new generation of user-centred computing environments and systems. These solutions aim to find new ways to obtain a better integration of information technology in everyday life devices and activities.

AmI environments are integrated by several autonomous computational devices of modern life ranging from consumer electronics to mobile phones. Ideally, people in an AmI environment will not notice these devices, but they will benefit from the services these solutions provide them. Such devices are aware of the people present in those environments by reacting to their gestures, actions and context. Recently the interest in AmI environments has grown considerably due to new challenges posed by society, demanding highly innovative services, such as vehicular ad hoc networks (VANET), Ambient Assisted Living (AAL), e-Health, Internet of Things and Home Automation among others. The main focus of this edition of the UCAmI Conference will be "Ambient Intelligence: Sensing, Processing and Using Environmental Information".

Publication

All accepted papers will be included in Proceedings published by Springer. Selected papers will be published in journals that will be announced soon.

Important Dates

Abstract submission: **June, 15th 2023**

Paper submission: **July, 15th 2023**

Notifications: **September 20st, 2023**

Camera-ready version: **October 10th, 2023**

Conference dates: **November 28 to 30th, 2023**

TRACKS

Aml FOR HEALTH & A3L (Ambient, Active & Assisted Living) (Topics)

- The latest developments in ambient intelligence and applications in healthcare.
- Wearable and portable devices for health monitoring and promoting wellbeing.
- The role of AI and machine learning in promoting A3L.
- Robotics and human-robot interaction for providing support in ambient assisted living environments.
- Privacy, security, and ethical considerations in ambient active and assisted living.
- Smart homes and ambient intelligence for supporting independent living.
- User-centered design and user experience in health environments.
- Data analytics and big data in ambient assisted living research and practice.
- Evaluation and validation of ambient assisted living systems and applications.
- Ambient assisted living and aging in place.
- Ambient assisted living and chronic disease management.
- Active aging and healthy living.
- Business models and commercialization of ambient assisted living products and services.
- Synthetic data in medical and health research.
- Improving healthcare using medical digital twin technology.
- Responsible AI in Healthcare.
- Digital interventions for depression, mental health issues and quality of life improvement.
- Empowerment and digitalization in healthcare.
- Sustainable smart healthcare and co-creation processes.
- Knowledge management for health: context, cognition, behaviour, and user modelling.
- Education, training, and e-Learning systems in Health domains.

SMART ENVIRONMENTS (Topics)

- Design principles and guidelines.
- Using Digital Twins for smarter environments.
- Data capture and intelligent sensing at the edge.
- Generation of Synthetic data.
- Collection, cleansing, processing, distribution and storage of data.
- Application of machine learning and artificial intelligence.
- Adaptive monitoring and alerting.
- Activity recognition and behavioral analysis.
- Interventions and applications for Connected Health.
- Decision support for increasing quality of life.
- Evaluation of Living Labs and Smart Homes.
- Cross-industry development towards Industry 5.0.
- Robotic integration in Smart Environments.
- Sustainable Smart Environments.

INTERNET OF EVERYTHING (IoT + PEOPLE + PROCESSES) AND SENSORS (Topics)

- IoE (IoT included) enabling technologies, techniques and methods.
- IoE application and services.
- Current and future trends in IoE.
- IoE societal impacts and Ethical implications of IoE.
- Security, privacy and trust in IoE.
- IoE interoperability, integration and performance.
- Applications of hybrid sensor networks.
- Innovative real-world sensor deployments and applications.
- IoE experimental results and deployment scenarios.
- Human factors in IoE.
- AI for the embedded IoT/IoE and Edge computing.
- Sensor circuits and devices design, integration and combination.
- Scalable IoT architectures, protocols and algorithms of sensor networks.
- Energy Efficiency and Sustainability, resource allocation, quality of service (QoS) and fault tolerance in Sensor Networks.
- Sensor and actuator technologies in ambient assisted living contexts.

HUMAN-COMPUTER INTERACTION FOR Aml (Topics)

- Natural User Interface.
- Human-Centric Interfaces for Aml environments.
- Multimodal Interface.
- Context-dependent Systems.
- Novel input devices.
- Human-Ambient Interaction.
- Mobile or Affective Interfaces.
- Ubiquitous and ambient displays.
- User experience in Ambient Computing.
- Interaction with smart objects.
- HCI and Artificial Intelligence.
- Human Factors in HCI.

DATA SCIENCE (Topics)

- Modeling, visualization, personalization, and recommendation in Data Science.
- Mining and/or integration from multi-sourced or multi-modal data, including text, semi-structured, spatio-temporal, streaming, graph, web, and multimedia data.
- Knowledge discovery and pattern recognition through machine learning, statistical learning methods, deep analytics, and deep learning.
- Envisioning a field of data science and analytics in Aml and Ubiquitous Computing.
- Data science for specific Aml and Ubiquitous computing application domains, such as scientific, healthcare, business, entertainment, government, and agriculture.
- Using massive data to support decision-making in Aml environments.
- Efficiency, scalability, security, and privacy issues in data science.
- Lessons learned in data science and analytics of Aml and Ubiquitous Computing.

Satellite Events

International Workshop on Energy Aware Systems, Communications and Security.

Contact

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