EMPATH-IA: Workshop on EMpowering PAtients THrough AI, Multimedia, and Explainable HCI: Innovations in Personalized Healthcare

Preface

The EMPATH-IA 2025 Workshop, held in conjunction with the 16th Biannual Conference of the Italian SIGCHI Chapter (CHItaly 2025), focused on the integration of Artificial Intelligence (AI), Human-Computer Interaction (HCI), and Explainable AI (XAI) to design transparent, patient-centered technologies using multimedia applications. The workshop aimed to address one of the most pressing challenges of contemporary healthcare: empowering patients to actively participate in their care and decision-making processes.

Patient empowerment represents a cornerstone of modern healthcare, shifting from a paternalistic model to one in which individuals are informed, engaged, and autonomous in managing their conditions. The advent of digital health technologies—including AI, HCI, and multimedia—offers unprecedented opportunities to support this transformation by enabling personalized diagnostics, fostering mental health management, and creating explainable, trustworthy, and ethically aware healthcare tools. However, these technologies must be designed with usability, transparency, and ethical considerations in mind to ensure that they empower rather than disempower patients.

A total of eight papers were submitted to EMPATH-IA 2025. After a careful peer-review process, six contributions were accepted for presentation and inclusion in these proceedings.

The accepted papers highlight diverse approaches to patient empowerment through AI, HCI, and multimedia:

- Esposito et al. introduce a multi-modal approach to *emotion recognition leveraging audio, video, and EEG signals*, highlighting the potential of affective computing for more empathetic healthcare support.
- De Roberto et al. present *X-Heart*, a human-centered framework for explainable detection of PVCs (premature ventricular contractions), demonstrating how transparent clinical decision-making can reduce cognitive load for clinicians while improving patient understanding of diagnostic outcomes.
- Chang et al. propose an *Intelligent Home Care Environment for dementia care*, which leverages reinforcement learning and human-centered XAI to provide adaptive, non-intrusive nudging for daily routines, thereby supporting autonomy and trust.
- Cilia et al. discuss *VERA*, a virtual environment for rehabilitation based on embodied cognition, showing how sensorimotor feedback in AR/VR contexts can foster agency and independence in patients facing neurodegenerative conditions.
- Iannotta et al. investigate the use of *large language models to score the Thought and Language Disorder Scale in schizophrenia*, evaluating their reliability against clinicians and offering a promising tool for scalable, explainable psychiatric assessment.

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- Francese and De Simone explore the use of *social robots to support mental health monitoring*, presenting Furhat-based interviews as a way to improve continuous monitoring, reduce relapses, and empower patients with greater control over their mental health.

Together, these contributions reflect the interdisciplinary nature of EMPATH-IA and its commitment to bridging AI, multimedia, and HCI for patient-centered innovation. They demonstrate that empowering patients is not merely a technological challenge but also a human-centered endeavor that requires sensitivity to ethics, privacy, and transparency.

We are grateful to the authors for their valuable contributions, to the program committee and reviewers for their careful evaluations, and to the participants of the workshop for their thoughtful discussions.

The Organizers

- Rita Francese, University of Salerno (Workshop Chair);
- Felice Iasevoli, University of Naples Federico II;
- Mariacarla Staffa, University of Naples Parthenope;
- Kawa Nazemi, Darmstadt University of Applied Sciences;
- Laura De Santis, Contract Researcher at the Computer Science Department, University of Salerno

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