



Emotion
Aware

4th International Workshop on Emotion Awareness for Pervasive Computing with Mobile and Wearable Devices

In conjunction with
2020 IEEE International Conference on Pervasive Computing and Communications (PerCom 2020),
March 23-27, 2020, in Austin, Texas, USA.

An important goal of pervasive computing is to integrate computer devices into the users' everyday life seamlessly. This allows context-aware applications to gather information about the users to support them in their daily tasks. A newly attractive source of information for pervasive computing is provided by mobile devices, wearable devices, and pervasive sensors able to detect the emotional state of the users. In many real-world scenarios, it is essential to use wearable sensors, embedded in mobile devices such as smartphones and smartwatches, to measure the emotional state of the user. This would help to understand how emotions influence processes such as decision making and reasoning. However, emotion recognition remains to be a complex and challenging task mainly regarding the following aspects: *sensing modalities*, *data analysis*, and its *application* in real life.

- Sensing Modalities – what to sense and what kind of sensors can be used? Physical sensors in mobile devices or biosensors in wearable devices and pervasive sensors (e.g. RF sensors) are currently available.
- Data analysis – different approaches to emotion recognition are based on different types of collected data.
- Application – how to effectively use the emotion information in pervasive computing and context-aware applications.

While there have been, many contributions targeting some of these challenges, there are still unsolved problems. The proposed workshop will explore the challenges of the sensing, modelling, and recognizing of emotions by using embedded sensors in smartphones, in wearable devices, and pervasive sensors (e.g. RF sensors) for pervasive computing. We aim to have unique contributions addressing these challenges and to provide a discussion space to facilitate collaboration among researchers interested in emotion recognition for pervasive computing.

Topics of interests include, but are not limited to the following areas:

- Theory, experimental design, computational models, algorithms, and evolutionary investigation in emotion detection for pervasive computing.
- Emotion representations and signal characteristics that describe and identify emotions or stress.
- Mobile data measurement and collection platforms for emotion detection.
- Approaches to obtaining reliable ground truth and affective data annotation for emotion research.
- Emotion detection algorithms/approaches using data collected with mobile devices, wearable devices and pervasive sensors (e.g. RF sensors)
- User studies and evaluation techniques for emotion detection and automated systems that model and detect emotions.
- Awareness of emotions in collaboration or crowdsourcing.

- The novel use of emotion information in pervasive computing applications.
- The application of emotion information for the work-life balance, for a healthier life and behavior.
- The combined research of emotion recognition and artificial intelligence (AI).
- The investigation of the human-robot interaction.
- Privacy issues
- Presentation of emotions
- Applications of emotions
- Integration of emotions into lifelogging applications

Technical Program Committee

- Dr. Chelsea Dobbins (School of Information Technology and Electrical Engineering, University of Queensland, Australia)
- Prof. Dr. Klaus David (Chair for Communication Technology (ComTec), University of Kassel, Germany)
- Prof. Bernd Radig (Technical University of Munich, Germany)
- Prof. Dr. Sandra Ohly (Business Psychology Group, University of Kassel, Germany)
- Prof. Dr. Tadashi Okoshi (Graduate School of Media and Governance, Keio University, Japan)
- M. Sc. Judith Heinisch (Chair for Communication Technology (ComTec), University of Kassel, Germany)
- Prof. Dr. Joyce Westerink (Chair of Wellbeing and Psychophysiology in the Human Technology Interaction, Eindhoven University of Technology, Netherlands)
- Prof. Midori Sugaya (Department of Computer Science and Engineering, Shibaura Institute of Technology (SIT), Japan)

Workshop Policies:

- The workshop will be affiliated to IEEE PerCom 2020, to be held Austin, Texas, USA.
- Each accepted workshop paper requires a full PerCom registration (no registration is available for workshops only).
- Workshop papers will be included and indexed in the IEEE digital libraries (Xplore)

Important Dates

Paper submission: November 11, 2019

Paper notifications: December 20, 2019

Camera ready: January 31, 2020

Organizers

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