

Proceedings of the 2nd Workshop on
Affective Computing and Context Awareness in Ambient Intelligence
AfCAI 2018

held in Universitat Politècnica de València, Spain, on 19-20 April 2018

<http://afcai18.webs.upv.es>

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Affective computing (AfC) is a multidisciplinary research approach regarding practical modeling and use of information about human emotions in computer systems. Originally proposed by Rosalind Picard from the MIT Media Lab, it became a field where researchers and practitioners from computer science and artificial intelligence (AI) meet with psychologists, neuroscientists, biomedical engineers and philosophers.

The principal objectives of the AfCAI workshop series is to put selected problems and methods from the area of AfC into a specific engineering context. Our focus is to consider use cases and applications of AfC techniques within the scope of context-aware systems and ambient intelligence. The workshop series was originally proposed by Grzegorz J. Nalepa. The first AfCAI workshop was organized in Universidad de Murcia, Spain in November 2016, with Maria Trinidad Herrero Ezquerro and José Tomás Palma Méndez as co-chairs. It featured 13 oral presentations, an invited lecture from researchers from 5 countries and a brainstorming session. After the workshop, a special issue of the Future Generation Computer Systems journal from Elsevier was edited.

The second edition of AfCAI was held in Universitat Politècnica de València, Spain, on 19-20 April 2018, with Grzegorz J. Nalepa (AGH University of Science and Technology, Jagiellonian University), Vicente Julian, (Universitat Politècnica de Valencia) and José Tomás Palma Méndez (Universidad de Murcia) as co-chairs. The organization team consisted of Angelo Costa (University of Minho), Carlos Carrascosa (Universitat Politècnica de Valencia), Paulo Novais (University of Minho), and Jaime Rincon (Universitat Politècnica de Valencia).

The international program committee included Piotr Augustyniak (AGH University of Science and Technology, Poland), Martin Atzmueller (Tilburg University, The Netherlands), Kerstin Bach (Norwegian University of Science and Technology), Costin Badica (University of Craiova, Romania), Joachim Baumeister (denkbare GmbH, Universitat Wuerzburg, Germany), David Camacho (Universidad Autonoma de Madrid, Spain), Davide Carneiro (ESTG - Politecnico do Porto, Portugal), Carlos Carrascosa (Universitat Politècnica de Valencia, Spain), Angelo Costa (University of Minho, Portugal), Maria Trinidad Herrero Ezquerro (Universidad de Murcia, Spain), Marco de Gemmis (University of Bari Alto, Italy), Sergio Gonçalves (University of Vigo, Spain), Mirjana Ivanovic (University of Novi Sad, Serbia), Vicente Julian (Universitat Politècnica de Valencia, Spain), Jason J. Jung (Chung Ang University, South Korea), Andrej Košir (University of Ljubljana, Slovenia), Grzegorz J. Nalepa (AGH University of Science and Technology, Jagiellonian University, Poland), Paulo Novais (Universidade do Minho, Portugal), José Tomás Palma Méndez (Universidad de Murcia), Marie Postma (Tilburg University, The Netherlands), Ricardo Ramos (University of Minho, Portugal), Manuel Fernando Rodrigues (ESTG – Politecnico do Porto, Portugal), Marko Tkalcic (Free University of Bozen-Bolzano, Italy), and Paweł Węgrzyn (Jagiellonian University, Poland).

The workshop included 14 papers organized in 4 sessions, and presented by authors from 8 countries, and a brainstorming session devoted to joint project plans. The papers are briefly described below.

Troxler et al. discuss a pilot study investigating the influence of narrative on affect and presence in a video game using VR. Argasiński et al. also consider a game-related study, however, a serious game for firefighter training. They discuss possible theoretical frameworks for designing a game with affective aspects. Torregrosa et al. present an experimental methodology to analyze and measure the impact of emotional states on the game performance and on the user experience. Silva and Analide consider an application of game-related techniques, namely the gamification including the use of affective computing for the improvement of driving assessments. Furthermore, Ferreira et al. continue the use of gamification to promote sports values among youths. In his paper Jung considers an affective lifelogging framework which can recognize the emotions by integrating multimodal information from multiple sources.

Social sensing provides opportunities for observing human affective condition utilizing objective sensor measurements. In their paper, Atzmueller et al. describes an approach for analyzing organizational social networks capturing face-to-face contacts between individuals. Furthermore, they outline perspectives and scenarios for an analysis in order to estimate happiness in the context of organizational social networks. Rombout et al. continue the social perspective, and consider techniques for estimating collective motor behavior. They examine methodological and theoretical approaches towards measuring both individual traits and group interaction in the context of a group dance.

Taverner et al. emphasize the role of personalities in creating affective agent architectures that simulate human behavior. Gogora and Debnár elaborate on the ethical issues regarding the development of affective companion technologies. Rincon et al. present a practical example of such a technology in a form of an emotional intelligent robot assistant. Another practical work is by Nalepa et al. who discuss the progress of the development of mobile platform for affect interpretation. Moreover, Przybyło et al. present a concept of bimodal visual emotion recognition in computer users. Finally, Bach makes an overview of challenges and opportunities for moving from the level of data analysis to context-aware decision making.

These submissions present an interesting and developing research landscape. Considering the growing success of the workshop, we are planning to continue organizing it. The next edition is planned for the second half of 2019 in Spain.

The Editors

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