

# Interface and Experience Design with AI for VR/AR DAIVAR 2018



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Call for Long/Short Papers, Abstracts, Demos and Posters

2nd Workshop on INTERFACE AND EXPERIENCE DESIGN  
WITH ARTIFICIAL INTELLIGENCE FOR AI/VR (DAIVAR)

In conjunction with the IEEE Artificial Intelligence Virtual Reality (AIVR) Conference

- 10th-12th December 2018
- Taichung, Taiwan
- Submission Deadline: 14<sup>th</sup> October 2018
- Website: <http://www.artur-lugmayr.com/activities/current-activities/daivar2018/>
- Submission System: <http://www.ambientmediaassociation.org/Submissions/2018DAIVAR/>
- Workshop proceedings published in an Scopus indexed proceedings series
- Best papers will be published as edited book, or journal special issue

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The objective of this workshop is to invite scholars and practitioners to discuss synergies between interface and experience design in artificial intelligent reality virtual and augmented environments. The aim is to gather a cross-disciplinary team of contributors researching HCI related issues contributing to this fascinating newly emerging domain. We especially seek contributions from experts with a background in computer science, HCI, psychology/cognitive sciences, culture/communication studies, design and art to develop this fascinating intersection. Aspects can range from user-experience, technologies supporting end-users, practical applications, methods, content production, cultural implications, communication theories, up to more artistic approaches in artificial intelligent interaction.

While AI's main aim is to replicate human intelligence, AR and VR focuses its research efforts on the creation of artificial worlds either in complete virtual world, or as part of our physical environment. Many examples that bridge the two fields have emerged recently, e.g. intelligence in digital games and the utilization of computer graphics hardware for deep learning and AI. Philosophical discussions around issues arising in this new area range from ideas when things start to think to Alan Turing's work. In this workshop, we would like to raise a question: what would happen when artificial worlds start to think, and how we humans can interact and communicate with AI through e.g. affective interfaces? Thus, while AI and VR/AR went rather distinct research pathways, we attempt to bring them together, and discuss different aspects at the intersection of machine intelligence and human interaction in a mixed reality.

The workshop intends to attract a broad range of contributions to develop this scholarly field during a full day venue. As the emphasis is on creating the synergy between VR/AR and AI/ML, we are not limited to particular areas; instead, the following exemplary topics might help to gather ideas for a possible contribution: affective and emotional computation, communication with AI, digital game analytics, utilization of computer graphics hardware for deep

learning, personalization and recommender systems, UX with agents and physical robots, cultural robotics, or AI in information visualization.

The workshop program stretches over a full-day, and will contain a combination of invited keynote presentations, oral presentations, posters, and demonstrations.

The workshop proceedings will be published in a Scopus indexed proceedings series, and the very best contribution will be published in an edited book from a highly reputable publisher which has been pre-arranged. Depending on the quality and amount of contributions, we are also considering to publish a journal special issue within an indexed publisher.

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TOPICS OF INTEREST (BUT NOT LIMITED TO)

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- Interaction design for AIVR
- Multimodal AI supported interaction design
- Artificial intelligence and machine learning in AIVR
- Emotions and AI in VR, AR, and smart objects
- Human-Computer-Interaction with AI in virtual worlds
- Human communication through AIVR
- Emotion enriched human-AI collaboration
- AI in digital games and other application areas
- User-Experience and interaction with AIVR
- Affective human-virtual world interaction
- Design of emotionally intelligent AIVR
- Recommender systems and personalisation in AIVR
- Information visualisation in AIVR
- Communication theory and cognitive science
- Affective ambient intelligence in mixed realities
- UX with AI agents in AIVR
- Brain interfaces in AIVR
- AI based emotion mediated communication in AIVR
- Authoring emotional intelligent interaction in AIVR
- Multimodal affective interfaces in AIVR
- Human-human emotional communication in AIVR

The workshop proceedings will be published in a Scopus indexed proceedings series with an ISBN number as part of the Semantic Ambient Media Experience (SAME) workshop series. The very best contributions will be published in an edited book from a highly reputable publisher which has been pre-arranged. Please note that only selected high quality contributions will be published as part of the edited book. However, during the workshop a common journal article co-authored between all workshop participants will be published as an introduction chapter.

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IMPORTANT DATES

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- 14/10/2018: Deadline for workshop papers
- 21/10/2018: Notification of accepted workshop papers
- 29/10/2018: Camera ready workshop papers
- 31/10/2018: Registration for the Workshop
- 10/12/2018: Workshop Day

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SUBMISSION GUIDELINES

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The workshop program stretches over a full-day, and will contain a combination of invited keynote presentations, oral presentations, posters, and demonstrations. We are calling for paper submissions of extended abstracts between 2-5

pages long, following the submission format of [IEEE Manuscript Formatting guidelines](#). Please choose one of the three submission categories:

- \* Abstract: 1-2 pages long
- \* Short paper, demo, or poster: 2-4 pages long
- \* Long paper: 4-6 pages long

Please download the paper template from:

[http://www.ieee.org/conferences\\_events/conferences/publishing/templates.html](http://www.ieee.org/conferences_events/conferences/publishing/templates.html)

The copyright form can be downloaded from: <http://www.visemex.ambientmediaassociation.org/wp-content/uploads/2016/09/CopyrightForm.pdf>

Your submission should include: scanned signed copyright form + original contribution in word or latex + pdf of the paper.

Add ALL your files (copyright form, word document/latex files, scanned copyright form) into ONE zip file.

Upload the zip file to the workshop submission system on:

<http://www.ambientmediaassociation.org/Submissions/2018DAIVAR/>

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#### RECOMMENDED READINGS PRIOR SUBMISSION

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We strongly recommend the ideas and topics from the following papers prior your submission or as part of a paper submission in its discussion section:

- \* Lugmayr, A. et al., 2017. Cognitive Big Data. Survey and Review on Big Data Research and its Implications: What is Really “New”? Cognitive Big Data! Journal of Knowledge Management (JMM), 21(1). Available at: [http://www.emeraldgrouppublishing.com/products/journals/call\\_for\\_papers.htm?id=5855k](http://www.emeraldgrouppublishing.com/products/journals/call_for_papers.htm?id=5855k), Journal of Knowledge Management/Emerald.
- \* Sun, M., Zhao, Z., and Ma, X. (2017). Sensing and Handling Engagement Dynamics in Human-Robot Interaction Involving Peripheral Computing Devices. In Proc. CHI2017 (to appear).
- \* Zhu, F., Fang, K., and Ma, X. (2017). Exploring the Effects of Strategy and Arousal of Cueing in Computer-Human Persuasion. In Proc. CHI2017 EA (to appear).
- \* Yang, Y., Ma, X., and Fung, P. (2017). Perceived Emotional Intelligence in Virtual Agents. In Proc. CHI2017 EA (to appear).
- \* Ma, X. (2016). Developing Design Guidelines for a Visual Vocabulary of Electronic Medical Information to Improve Health Literacy. Interacting with Computers.
- \* Zhu, K., Ma, X., Chen, H., and Liang, M. (2016). Tripartite Effects: Exploring Users' Mental Model of Mobile Gestures under the Influence of Operation, Handheld Posture, and Interaction Space. International Journal of Human-Computer Interaction.
- \* A. Lugmayr, E. Serral, A. Scherp, B. Pogorelc, and M. Mustaquim, “Ambient media today and tomorrow,” Multimedia Tools and Applications, vol. 71, 2014, pp. 7–37 Available: <http://dx.doi.org/10.1007/s11042-012-1346-z>.
- \* ZHU Kening, ZHU Rongbo, H SAMANI, BB JALAEIAN, PaperIO: a 3D interface towards the internet of embedded paper-craft, IEICE Transactions on Information and Systems, 2014

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#### WORKSHOP ORGANISERS

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CONTACT INFORMATION

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