CHRISTOPH GEBHARDT

Department of Computer Science, ETH Zürich

Stampfenbachstrasse 48

8092 Zurich, Switzerland

christoph.gebhardt@inf.ethz.ch

ait.ethz.ch/people/gebhardt

Google Scholar

EDUCATION

06/2015 – 11/2020	**ETH Zürich** Doctor of Science in *Computer Science* Doctoral thesis: *Optimal Control to Support High-Level User Goals in Human-Computer Interaction*
10/2010 – 11/2013	**Universität Konstanz** Master of Science in *Information Engineering* Majoring in *Human-Computer Interaction* Grade "very good" (1,4)
09/2011 – 01/2012	**Universitat Politècnica de València** Course of study *Ingeniero Informático*
10/2007 – 09/2010	**DHBW Stuttgart** Bachelor of Engineering in *Information Technology* Majoring in *Engineering Informatics* Training company *viastore systems GmbH* Grade "good" (1,7)

RESEARCH & PROFESSIONAL EXPERIENCE

04/2015 – 10/2020	**ETH Zürich** *Postdoc* at SIP Lab (with Prof. C. Holz) & AIT Lab (with Prof. O. Hilliges)
11/2020 – 08/2022	**Tinamu Labs AG** *Senior computer scientist* at Tinamu Labs AG, Zürich, Switzerland
04/2015 – 10/2020	**ETH Zürich** *Research assistant* at AIT Lab (with Prof. O. Hilliges)
06/2018 – 09/2018, 12/2018 – 04/2019	**Facebook Reality Labs** *Research scientist & intern* at Facebook Reality Labs (with Dr. H. Benko)
10/2017 – 12/2017	**Aalto University** *Visiting researcher* at the User Interfaces Group (with Prof. A. Oulasvirta).
11/2013 – 02/2015	**Universität Konstanz** *Research assistant* at the HCI Group (with Prof. H. Reiterer)
04/2012 – 07/2013, 04/2011 – 07/2011	**Universität Konstanz** *Student researcher* at the HCI Group (with Prof. H. Reiterer)
10/2007 – 09/2010	**viastore systems GmbH** *Student trainee* as a part of the studies at DHBW Stuttgart

TEACHING EXPERIENCE

AS'15-18 & AS'22	*Human Computer Interaction*. An introductory course into the subject of human-computer interaction. Students learn how to design and evaluate user interfaces (as TA, lecturer for Hilliges, O. and Holz, C., ETH Zürich).

AS'19	*Mixed Reality Lab.* A laboratory course on mixed reality technology at the cross-section of computer graphics and vision, human machine interaction as well as gaming technology (as TA for Bogo, F. and Oswald, M., ETH Zürich).
SS'19	*Machine Perception.* An advanced course on the fundamental aspects of modern deep learning algorithms and architectures for a variety of perceptual tasks (as TA for Hilliges, O., ETH Zürich).
SS'19 & SS'20	*Seminar on Computational Interaction.* A seminar on computational methods for the design of interactive systems (as TA for Hilliges, O., ETH Zürich).
SS'16 & SS'17	*User Interface Engineering.* An advanced course about the most important aspects of machine understanding of human behavior and how to leverage such understanding in the design of intelligent user-facing technologies (as TA for Hilliges, O., ETH Zürich).
AS'14	*Blended Interaction.* A project-based course for bachelor and master students that teaches them to apply user-centered design to create natural interactions for interactive systems (as TA for Reiterer, H., Universität Konstanz).
SS'14	*Usability Engineering: Evaluation.* A project-based course for bachelor and master students covering evaluation methods for user studies and experiments (as instructor for Reiterer, H., Universität Konstanz).

SELECTED SUPERVISED THESES

Zhi, X. (2022). *User Intention Modelling for Reinforcement Learning Interface Agents.* Master Thesis, ETH Zürich.

Brombach, A. (2022). *Effect of Consumed Content on Mobile Devices on Users' Immediate Emotional Response.* Master Thesis, ETH Zürich.

Chen, J. (2020). *A Design-based Solution for a Notification Management System.* Bachelor Thesis, ETH Zürich.

Regan, B. (2019). *Application of Deep Q-Learning to Sequential Recommendation of Music.* Master Thesis, ETH Zürich & Spotify.

Sattler, R. (2019). *Optimizing Image Framing for Quadrotor Trajectory Generation.* Bachelor Thesis, ETH Zürich.

Chen, Y. (2018). *Learning the Weights of a Trajectory Optimizer to Generate Aesthetically Pleasing Aerial Videos.* Semester Thesis, ETH Zürich.

Ng, Y. (2017). *A Trajectory Generation Scheme to Improve the Global Smoothness of Quadrotor Camera Shots.* Master Thesis, ETH Zürich.

PATENTS

04/2019	Gebhardt, C., Benko, H., Hillis, J. and Wigdor, D. *Learning Cooperative Personalized Policies from Gaze Data,* US Patent App. 62/830,275 (pending). 2019.

AWARDS

09/2014	*Best Paper Award* of the conference *Mensch & Computer 2014*, München.

GRANTS

2021	Grant from *Innosuisse, Swiss Innovation Agency*, 632'000 CHF (contributor)
2015	Grant from *Committee on Research* of *Universität Konstanz*, 25000 € (contributor)

PROFESSIONAL ACTIVITIES

ORGANIZED CONFERENCES & TUTORIALS

03/2017 – 06/2017	Co-organizer of the *ACM SIGCHI Summer School on Computational Interaction 2017* held at Lake Lucerne.
05/2012 – 09/2012	Member of the organizing team of the conference *Mensch & Computer 2012* held in Konstanz.

SELECTED TALKS

11/2022	Invited lecture at Aalto University, Espoo, Finland, *Computational Rationality*.
05/2021	ACM CHI Conference, Yokohama, Japan, *Optimization-based User Support for Cinematographic Quadrotor Camera Target Framing*.
03/2020	Invited talk at Facebook Reality Labs, Redmond, USA, *Optimization and Learning-based Methods for Supporting User Intent in Human-Machine Interfaces*.
10/2019	ACM UIST Conference, New Orleans, USA, *Learning Cooperative Personalized Policies from Gaze Data.*
08/2018	ACM SIGGRAPH Conference, Vancouver, Canada, *Optimizing for Aesthetically Pleasing Quadrotor Camera Motion.*
04/2017	Invited talk at Ambient Notification Environments Seminar, Dagstuhl, Germany, I*ntelligent Messages*.
05/2016	ACM CHI Conference, San Jose, USA, *Airways: Optimization-Based Planning of Quadrotor Trajectories according to High-Level User Goals* (with Hepp, B.).

REVIEWING

I routinely review for premier venues in HCI and computer graphics such as ACM CHI, ACM UIST, ACM SIGGRAPH, Eurographics & the TOCHI journal.

SELECTED PUBLICATIONS

Gebhardt, C. and Hilliges, O. (2021). *Optimal Control to Support High-Level User Goals in Human-Computer Interaction*. In: Li, Y., Hilliges, O. (eds) Artificial Intelligence for Human Computer Interaction: A Modern Approach.

Gebhardt, C., and Hilliges, O. (2021). *Optimization-based User Support for Cinematographic Quadrotor Camera Target Framing.* In CHI '21 Proceedings of the ACM Conference on Human Factors in Computing Systems.

Gebhardt, C., Oulasvirta, A. & Hilliges, O. (2021). *Hierarchical Reinforcement Learning Explains Task Interleaving Behavior*. Comput Brain Behav 4(3).

Gebhardt, C., Hecox, B., van Opheusden, B., Wigdor, D., Hillis, J., Hilliges, O. and Benko, H. (2019). *Learning Cooperative Personalized Policies from Gaze Data.* In UIST '19 ACM Symposium on UI Software and Technology.

Gebhardt, C., Stevsic, S. and Hilliges, O. (2018). *Optimizing for Aesthetically Pleasing Quadrotor Camera Motion.* In SIGGRAPH '18 ACM Transactions on Graphics 37(4).

Gebhardt, C., Hepp, B., Nägeli, T., Stevsic, S. and Hilliges, O. (2016). *Airways: Optimization-Based Planning of Quadrotor Trajectories according to High-Level User Goals.* In CHI '16 Proc. of the ACM Conf. on Human Factors in Comp. Sys.