

# CHRISTOPH GEBHARDT

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## EDUCATION

- 06/2015 – 09/2020 ETH Zürich  
Doctor of Science in *Computer Science*  
Doctoral thesis: *Predictive Control as a Framework for Intelligent User Interfaces*
- 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)
- 10/2006 – 09/2007 Universität Karlsruhe (KIT)  
Diploma program *Engineering Economics*

## RESEARCH & PROFESSIONAL EXPERIENCE

- since 04/2015 ETH Zürich  
*Research assistant* at the AIT Group (with Prof. Otmar Hilliges)
- 06/2018 – 09/2018, Facebook Reality Labs  
12/2018 – 04/2019 *Research engineer & intern* at Facebook Reality Labs (with Dr. Hrvoje Benko)
- 10/2017 – 12/2017 Aalto University  
*Visiting researcher* at the User Interfaces Group (with Prof. Antti Oulasvirta).
- 11/2013 – 02/2015 Universität Konstanz  
*Research assistant* at the HCI Group (with Prof. Harald Reiterer)
- 04/2012 – 07/2013, Universität Konstanz  
04/2011 – 07/2011 *Student researcher* at the HCI Group (with Prof. Harald Reiterer)
- 10/2007 – 09/2010 viastore systems GmbH  
*Student trainee* as a part of the studies at DHBW Stuttgart

## TEACHING EXPERIENCE

- 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	<i>Seminar on Computational Interaction.</i> A seminar on computational methods for the design of interactive systems (as TA for Hilliges, O., ETH Zürich).
AS'15, AS'16, AS'17 & AS'18	<i>Human Computer Interaction.</i> An introductory course into the subject of human-computer interaction (as TA for Hilliges, O. and Norrie, M., ETH Zürich).
SS'16 & SS'17	<i>User Interface Engineering.</i> 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	<i>Blended Interaction.</i> 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	<i>Usability Engineering: Evaluation.</i> A project-based course covering evaluation methods for user studies (as instructor for Reiterer, H., Universität Konstanz).

#### SUPERVISED THESES

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.

Sharma, H., (2019). *Semantic Clustering of Mobile Instant Messages.* Semester Thesis, ETH Zürich.

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

Roth, A., (2018). *Implementing a Predictive Text Entry Method for Swiss German.* Bachelor Thesis, ETH Zürich.

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

Schilling, M., (2016). *Design and Evaluation of an App-Based User Interface for a Stair Climbing Wheelchair.* Semester Thesis, ETH Zürich.

Lis, K., (2016). *Quadrotor pilot training using augmented reality.* Semester Thesis, ETH Zürich.

Hofmann, I., (2014). *Development of Interaction Concepts for Creating Scientific Papers on an Interactive Desk.* Master Thesis, Universität Konstanz.

#### PATENTS

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

06/2016	Part of the winning team of the hackathon of the <i>Summer School on Computational Interaction 2016</i> , Helsinki.
09/2014	<i>Best Paper Award</i> of the conference <i>Mensch &amp; Computer 2014</i> , München.

## GRANTS

- 2015 Grant from *Committee on Research of Universität Konstanz*, 25000 € (contributor)  
2009 Grant from *Wista program of MFG Baden-Württemberg Innovation*, 1000 €

## 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

- 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*.  
10/2017 Invited talk at CS Forum, Aalto University, Espoo, Finland, *User-in-the-loop Trajectory Optimization for Aerial Videography*.  
04/2017 Invited talk at Ambient Notification Environments Seminar, Dagstuhl, Germany, *Intelligent 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., Oulasvirta A. and Hilliges, O., (2020). *Hierarchical Reinforcement Learning as a Model of Human Task Interleaving*. arXiv:2001.02122.

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 ACM Symposium on User Interface Software and Technology (UIST '19).

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

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 Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI '16).