

Dipl.-Inf.

# Sven André Mayer

info@sven-mayer.com | www.sven-mayer.com | +49 174 728 76 72  
Ludwigstr. 16, 70176 Stuttgart, Germany

---

## EXPERIENCE

**UX / HCI Researcher** University of Stuttgart, Germany since 2014-01-07

- Supervisor: Prof. Niels Henze
- User experience, and prototyping in the context of Human Computer Interaction

**Visiting Researcher** Max Planck Institute, Tübingen, Germany 2016 – 2017 (12 Month)

- Supervisor: Dr. Lewis Chuang
- Joint project on how street bumps affect touch input on a car's center console

**Ph.D. Internship** University of Glasgow, Scotland, UK 2015 (3 Month)

- Supervisor: Prof. Roderick Murray-Smith
- Joint research on casual interaction in conjunction with steering law

**Student Research Assistant** University of Stuttgart, Germany 2011 – 2014 (35 Month)

- Institute of Railway and Transportation Engineering
- Software development (C#)

---

## EDUCATION

**Ph.D. Student** University of Stuttgart, Germany since 2014-01-07, ending 2019-01-03

- Supervisor: Prof. Niels Henze
- Socio-Cognitive Systems Group and SimTech Cluster of Excellence
- PhD thesis topic: "Modelling human behavior patterns for interactive systems"

**Diploma degree in Computer Science (good)** University of Stuttgart, Germany 2014

- Supervisor: Prof. Niels Henze
- Diploma thesis: "Modeling distant pointing for compensating systematic displacements"

**Allgemeinen Hochschulreife (German A-Level)** Gewerbliche Schule Tübingen, Germany 2008

---

## SKILLS

- Languages: German (Mother Tongue), English (Fluent)  
Python, TensorFlow, Keras, C++, C#, Java, JavaScript, PHP, SQL, HTML, CSS, R
  - Applications: SPSS, Adobe PhotoShop/Illustrator/Premiere, Visual Studio, Android Studio, MS Office
  - Methods: Machine Learning, Quantitative Methods (Statistical Analysis, Hypothesis Testing), Qualitative Methods (Participatory Design, Interviewing, Observation), Mixed Methods Research Design, Usability, Prototyping, User Interface Design, Info Visualization
- 

## PROJECTS

**Machine Learning for HCI** 2017–2019

This project has two main goals. First, showcasing possible use of machine learning in different UX scenarios. Second, teaching HCI and UX research how to apply machine learning in their domain and highlighting possible pitfalls they are likely to face and how to avoid them. With this project, we want to enable none ML experts to foster a better UX with the support of machine learning.

**Using a Fully Touch Sensitive Smartphones to enhance Interaction** 2016–2019

The goal of this project was to extend the input space of mobile devices, especially smartphones input space. The area around the device offers excellent possibilities to add sensors and thus enable input. Interviews, gesture elicitation studies, and implementation for validation were used to enable users to

interact with the whole device. With this project, we showcased the potential of the phone of the future where the phone can sense touch interaction on the full device body.

### **Extending the Input Space of the Capacitive Screen** 2015 – 2018

The goal of this project was to add two input dimensions to the capacitive screen. In detail, the projects focused on adding the two dimensions of the finger's orientation: pitch and yaw. This enables users not only to pick a position on the screen but also to apply two more information. In this project, we enable future finger orientation user for the everyday user and showcase possible implementations and implications for UX designers.

### **Enabling Interaction with Objects in a Distance** 2018

The goal of this project was to enable users to interact with projects in the distance in a natural way. Thus, this project focus on controlees interaction. Moreover, the goal was to envision interaction possibility not only in the real world but also in virtual reality. We hereby enable the next generation of smart home interaction as well as new ways to interact with VR environments.

### **Large High-Resolution Display Workplaces** 2014 – 2018

The goal of this project was to build an understanding of how concepts for interaction with large high-resolution displays in office environments could be designed. Here, the way humans perceive and react to large visual spaces is essential for interaction with the displayed content. Fostering these through prototypes which are evaluated using qualitative and quantitative measurements was the goal of this project. Thus, we showcase the office of the future and how this impacts office worker's life every day.

### **Augmented Reality at the Workplace** 2014 – 2016

The goal of this project was to deploy assistive technology which can cognitively support workers during manufacturing. By following the user-centered design process we identified key requirements for assistive systems for both supporting workers and teaching assembly steps to workers. Our augmented workplaces train new workers and continuously support them to reduce the error rate and lower production time.

---

## **SELECTED PUBLICATIONS**

- **Mayer, Sven** Schwind, Valentin; Le, Huy Viet; Weber, Dominik; Vogelsang, Jonas; Wolf, Johannes; Henze, Niels (2019). *Evaluating the Effect of Orientation on Unistroke Touch Gestures*, Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19). <http://sven-mayer.com/wp-content/uploads/2019/01/mayer2019orientation.pdf>
- **Mayer, Sven**; Lischke, Lars; Woźniak, Paweł W.; Henze, Niels (2018). *Evaluating the Disruptiveness of Mobile Interactions: A Mixed-Method Approach*, Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI '18) <http://sven-mayer.com/wp-content/uploads/2018/01/mayer2018mixedmethod.pdf>
- **Mayer, Sven**; Lischke, Lars; Grønbaek, Jens Emil; Sarsenbayeva, Zhanna; Vogelsang, Jonas; Woźniak, Paweł W; Henze, Niels; Jacucci, Giulio (2018). *Pac-Many: Movement Behavior when Playing Collaborative and Competitive Games on Large Displays*, Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI '18) <http://sven-mayer.com/wp-content/uploads/2018/01/mayer2018pacmany.pdf>
- **Mayer, Sven**; Schwind, Valentin; Schweigert, Robin; Henze, Niels (2018). *The Effect of Offset Correction and Cursor on Mid-Air Pointing in Real and Virtual Environments*, Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI '18) <http://sven-mayer.com/wp-content/uploads/2018/01/mayer2018vrpointing.pdf>
- **Mayer, Sven**; Gad, Perihan; Wolf, Katrin; Woźniak, Paweł W.; Henze, Niels (2017). *Understanding the Ergonomic Constraints in Designing for Touch Surfaces*, Proceedings of the 19th International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI '17). (Honorable Mention Award) <http://sven-mayer.com/wp-content/uploads/2017/06/mayer2017ergonomic.pdf>
- **Mayer, Sven**; Wolf, Katrin; Schneegass, Stefan; Henze, Niels (2015). *Modeling Distant Pointing for Compensating Systematic Displacements*, Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems (CHI '15) <http://sven-mayer.com/wp-content/uploads/2017/03/mayer2015.pdf>