

# Hauke Sandhaus

## HCI Researcher

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### Hauke Sandhaus

PhD Candidate | Cornell Tech  
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[haukesand.github.io](https://haukesand.github.io)

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### Cornell Tech University / Ph.D. Student in Information Science

STARTED AUGUST 2021, NYC, NY, USA

Advised by assistant professor Qian Yang and co-advised by associate professor Wendy Ju. I am working on enabling designers to develop for positive societal impact while navigating external influences, unaccounted for in today's user-centered design processes.

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## Currently

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## Skills

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Coding: Python, Java, JavaScript, React.js, Node.js, Android, Unity3D, C#, Arduino, Open Frameworks

Data Analytics: Python data visualization, Tableau, R, Matlab, d3.js

Design: Interface design, Lottie, AE, 3D modeling, PSD, Framer

Hardware: CAD, Rapid Prototyping

Management: Team leadership, conflict resolution, strategy, scaled agile methods (certified), UX strategy

User research: Contextual & expert interviews, ethnography, surveys

UX: Personas, wireframes, focus groups, human factors

AI: fastai, Pinecone, Teachable Machines, TensorFlow, ml5.js, OpenCV, Sci-kit learn, DepthAI

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## Experience

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### Volkswagen Group Future Center / UX Technologist

OCTOBER 2018-AUGUST 2021, POTSDAM, BRANDENBURG, GERMANY

As a software circle member and generalist, I bridged UX researchers, designers, and technologists. We worked for the vision of "Mobility for all at the push of a button" with a direct impact on VW Group's UX strategy.

I led the work on designing inclusive user experiences for fully autonomous vehicles without steering wheels. Created visionary experiences from voice first UI-AI, to AR cockpits for flying cars. I built both fully functional prototypes and semi-functional WOZ experiences.

In 2020, the focus of our department shifted to work closer toward production: With my team of six, I have developed an all-digital next-generation driver interface. I was also involved in creating and transforming the car software organization CARIAD (portfolio, strategy & requirements management) and initiated GDPR privacy-conforming research practices and remote research practices during Covid-19.

### **Robert Bosch** / Intern & External Master Theses

AUGUST 2017 - JANUARY 2018, PLYMOUTH, MICHIGAN USA

Designed V2X interfaces.

Research on interfaces for autonomous vehicles for older adults & disabled.

### **ELIXIER** / Student Researcher

AUGUST 2016 - APRIL 2017, BAUHAUS UNIVERSITY WEIMAR, GERMANY

Usability testing of multimodal & augmented workbenches for education in the classroom (neurobiology, chemistry & electromobility).

Development of an AR manual for chemistry experiments.

### **100%FAT** / External Bachelor Theses

JANUARY 2015 - MAY 2015, ENSCHEDE, NETHERLANDS

Designing, Developing & Evaluating a prototype for a touchless interactive showcase in the DesignLab Twente.

### **Twente Academy** / Student Teacher

MARCH 2014 - SEPTEMBER 2014, UNIVERSITEIT TWENTE, GERMANY

Teaching pupils from upper secondary school programming with the Arduino microprocessor.

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## Education

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### **Bauhaus Universität Weimar** / Human Computer Interaction M.Sc.

2015 - 2018, WEIMAR, THURINGIA, GERMANY

HCI at the Bauhaus Universität Weimar consists out of compulsory courses from Computer Science for Digital Media, two major projects, and electives. Graduated with honors (GPA 3.9).

### **Universiteit Twente** / Creative Technology B.Sc.

2011 - 2015, ENSCHEDE, OVERIJSEL, NETHERLANDS

Creative Technology Courses combine several primarily independent fields of studies with subjects from Computer Science, Electrical Engineering, Industrial Design, Management, and Psychology. I graduated Cum Laude (Thesis GP 4.0).

### **Czech Technical University** / Semester Abroad

2013 - 2014, PRAGUE, CZECH REPUBLIC

Courses from electrical engineering and telecommunications.

### **Gymnasium im Schloss** / Abitur

2003 - 2011, WOLFENBÜTTEL, LOWER SAXONY, GERMANY

I was in the science section of the high school and participated and won in competitions. Graduated from high school with majors in Art & Religion.

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## Degree

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### Human-Computer Interaction M.Sc. / Master Thesis

Graduated with the best thesis of the year: Designing, Developing and Evaluating a prototype for a light communication interface for fully autonomous vehicles. Research on inclusive vehicle interfaces & methodologies to test fully autonomous vehicles.

**Title:** "An Ambient Display for Fully Autonomous Vehicles"

**Publication:** "A WOZ Study of Feedforward Information on an Ambient Display in Autonomous Cars." In The 31st Annual ACM Symposium on User Interface Software and Technology Adjunct Proceedings

### Creative Technology B.Sc. / Bachelor Thesis

Represented my graduation year and gave the graduation speech for the bachelor thesis. Research on touchless interaction methods, usability testing through an interactive game with multiple self-created air gestures. Implementation of a full prototype. The touchless showcase is still visible in the design gallery of the University of Twente.

**Title:** "Development of a 3D Navigable Interface for a Touchless Showcase"

**Publication:** open-access

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## Service & Teaching

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### Teaching Assistant in Privacy in the Digital Age

Fall 2024

Head TA in master level privacy class. Led assignments, in-class privacy policy exercise and a lecture on usable privacy. With Helen Nissenbaum and Vitaly Shmatikov.

### Teaching Assistant in Interactive Device Design

Fall 2023

Head TA in master level prototyping class. Maintained project code repository, labs and oversaw grading. With Wendy Ju.

### ISGSA Liason

Fall 2022 - Fall 2023

Information Science Graduate Student Association Liason for NYC to Ithaca campus collaboration.

### Teaching Assistant in HCI Design

Fall 2021

Assisted in teaching undergraduate and master level course in human computer interaction. Oversaw grading and individual sections. With Gilly Leshed.

### We Drive Proud

2019 - 2021

Member of the VW network to advocate being out at work.

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## Fellowships & Awards

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### DLI Doctoral Fellow

Fall 2023 - Spring 2024

The Digital Life Initiative supports examining the complexities and tensions present in digital technologies involving ethics, policy, politics, and quality of life.

### Siegel Public Interest Technology Impact Fellowship

March 2021

Funded to work for not-for profit organization YAI by the fellowship award. YAI is one of the largest organizations in the U.S. providing children and adults with intellectual and developmental disabilities (I/DD) a comprehensive range of services.

### Thesis of the year

July 2015

I was selected by the jury to speak at the graduation ceremony. My bachelor thesis presented on behalf of the creative technology program.

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## Publications

Latest publications and pre-prints at [haukesand.github.io/publications](https://haukesand.github.io/publications)

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Klein, N., Sandhaus, H., Goedicke, D., Parush, A., & Ju, W. Sep 2025. Modeling Social Situation Awareness in Driving Interactions. *AutoUI '25 Proceedings*.

Harvey, E., Sandhaus, H., Jacobs, A.Z., Moss, E., & Sloane, M. Jan 2024. The Cadaver in the Machine: The Social Practices of Measurement and Validation in Motion Capture Technology. *CHI '24 Proceedings*.

Kim, J., Sandhaus, H., and Fussell, S. 2023 Job Interview Using a Gender-Swapped Avatar. *CSCW Companion*.

Sandhaus, H. 2023. Promoting Bright Patterns. *CHI '23 Workshop: Designing Technology and Policy Simultaneously, arXiv [cs.HC]*.

Sandhaus, H., Ju, W. and Yang, Q. 2023. Towards Prototyping Driverless Vehicle Behaviors, City Design, and Policies Simultaneously. *CHI '23 Workshop: Designing Technology and Policy Simultaneously, arXiv [cs.HC]*.

Sandhaus, H. and Hornecker, E. 2018. A WOZ Study of Feedforward Information on an Ambient Display in Autonomous Cars. *The 31st Annual ACM Symposium on User Interface Software and Technology Adjunct Proceedings* (New York, NY, USA, Oct. 2018), 90–92.

Martinez, A., Honauer, M., Sandhaus, H. and Hornecker, E. 2018. Smart textiles in the performing arts. *Textiles, Identity and Innovation: Design the Future*. CRC Press. 311–318.

Sandhaus, H. 2015. *Development of a 3D navigable interface for a touchless showcase*. University of Twente.

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## Personal

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**Georg & Gabi Sandhaus** / Parents

Electrical Engineer & Civil Engineer. Detroit USA.

**Tim Vischer** / Partner

Lead of video content at Saks 5th Avenue, NYC.

**Anna Zaddam & Merle Sandhaus** / Sisters

Dental Technician & Math and English Teacher. Lower Saxony Germany

**Hauke Sandhaus / Me**

Born 6. May 1992 in Wolfenbüttel, Germany. Interested in electronic music & independent movies. Technophile, sporty & nature-loving.