

Hauke Sandhaus

HCI Researcher

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Currently

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 transparent AI & autonomous vehicle interaction. My interest is in designing interactions with positive societal impact.

Skills

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

Experience

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 "Mobility for all at the push of a button" with 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 towards production: With my team of six, I have developed an all-digital next-generation driver interface. I was also involved in the creation and transformation of the car software organization CARIAD (portfolio, strategy & requirements management). 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.

Education

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.

Degree

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

Service & Teaching

Teaching Assistant in Interactive Device Design

Fall 2023

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

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.

We Drive Proud

2019 - 2021

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

Fellowships & Awards

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.

Publications

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.

Personal

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.