

TOR-SALVE DALSGAARD

PhD Student, University of Copenhagen

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WHO AM I?

I am interested in users experiences and interactions with novel technologies. Novel technologies, such as virtual reality or mid-air haptics, have great potential to impact how human approach their daily life. I want to engage with the human users of these technologies through user studies, workshops, hackathons and the like to understand how users want to use novel technologies and what kind experiences can be enabled through novel technologies.

ACADEMIC CAREER

- 03/2021 **PhD Student** University of Copenhagen
I am doing my PhD with Kasper Hornbæk and Joanna Bergström at the Human-Centred Computing section at the Department of Computer Science. Here I work on mid-air haptics as part of the EU-FET project TOUCHLESS.
- 10/2020 – 02/2021 **VR Developer** CAMES Rigshospitalet, Region H
At the Copenhagen Academy for Medical Education and Simulation (CAMES), I implemented a toolkit for medical educators, allowing them to incorporate VR in their courses. The toolkit connects 360° videos with off-the-shelf surgical simulators.
- 03/2020 – 09/2020 **Research Assistant** University of Copenhagen
I worked as a research assistant for a while, writing up my masters thesis as a conference paper, helping researchers from CAMES and writing a literature review on object selection and manipulation techniques in VR.
- 06/2019 – 10/2019 **Student Research Assistant** University of Copenhagen
part time
For a summer, I worked as a research assistant, helping out in the Human-Centred Computing section. We wrote a paper on rapid prototyping of AR applications.

EDUCATION

- 2017 – 2020 **Master's Degree** University of Copenhagen
For my thesis, I modelled natural human pointing using machine learning. For this, I did a data collection study, a statistical analysis of relevant features for modelling human movement patterns and used different machine-learning algorithms to predict selection target locations.
- 2014 – 2017 **Bachelor's Degree** University of Copenhagen
For my bachelor's thesis, I studied the depth mapping of images for the use of object detection in aerial imagery.

PUBLICATIONS

Tor-Salve Dalsgaard, Joanna Bergström, Marianna Obrist, and Kasper Hornbæk. A User-Derived Mapping for Mid-Air Haptic Experiences. *International Journal of Human-Computer Studies*, September 2022. <https://doi.org/10.1016/j.ijhcs.2022.102920>.

Joanna Bergström, **Tor-Salve Dalsgaard**, Jason Alexander, and Kasper Hornbæk. How to Evaluate Object Selection and Manipulation in VR? Guidelines from 20 Years of Studies. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, CHI '21. <https://doi.org/10.1145/3411764.3445193>. Best Paper Award.

Tor-Salve Dalsgaard, Jarrod Knibbe, and Joanna Bergström. Modeling Pointing for 3D Target Selection in VR. In *27th ACM Symposium on Virtual Reality Software and Technology*. <https://doi.org/10.1145/3489849.3489853>.

Henning Pohl, **Tor-Salve Dalsgaard**, Vesa Krasniqi, and Kasper Hornbæk. Body LayARs: A Toolkit for Body-Based Augmented Reality. In *26th ACM Symposium on Virtual Reality Software and Technology*, VRST '20. <https://doi.org/10.1145/3385956.3418946>.

AWARDS

- 2021 **Dissemination Award 2021** Department of Computer Science, University of Copenhagen
For presenting my work at Culture Night, Digital Tech Summit, DIKU50, and other events.
- 2021 **CHI – Best Paper Award** CHI '21
Bergström et al., *How to Evaluate Object Selection and Manipulation in VR? Guidelines from 20 Years of Studies*. (2021)
- 2020 **Masters Thesis of the Year 2020** Dansk Selskab for Datalogi
Award honoring the best masters thesis in computer science in Denmark.

TEACHING

- 2020–
2022 **Advanced Topics in Human-Centred Computing**
I was teaching the students about quantitative and qualitative data analysis.
- 2022–
2023 **Virtual Reality** Internal Examiner
I was an internal examiner for a bachelor course on Virtual Reality.

ACADEMIC SERVICE

Student Volunteer

NordiCHI (2022)

Peer Review

MobileHCI (2022), UIST (2022), CHI (2023), IEEE VR (2023)

Service

IEEE VR Poster Committee (2023)

DISSEMINATION

Public Events

Culture Night (2021, 2022), Digital Tech Summit (2021, 2022), DIKU 50 (2021)

- 2022 **Touchless Hackathon '22** touchlessai.eu/hackathon
Under the theme of "A Touch of the Future", I organised a hackathon for students and researchers to play with ultrasonic mid-air haptic technology.

LANGUAGES

German - native
Danish - native
English - proficient

TECHNICAL SKILLS

Mid-air haptics
XR
Python / C++ / C#
Unity
Arduino
3D print / Lasercut

METHODOLOGICAL SKILLS

Conduct user studies
Qualitative analysis
Quantitative analysis
Organisational skills