

ALEXANDRA BREMERS

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bremers.github.io

Fourth-year PhD Candidate at Cornell Information Science, based at Cornell Tech, NYC, where I am advised by Associate Professor Wendy Ju. My background is in design and artificial intelligence. I combine designing with engineering and human participant studies to study how digital automation can support physical interactions. I am especially interested in how machines can support the feelings of joy and flow that people experience when they make something by hand. Prior to my PhD, I worked as a researcher at Jaguar Land Rover. I have work experience in various cultures and contexts. My approach when designing and researching is varied and interdisciplinary. I expect to graduate in May 2025.

EMPLOYMENT HISTORY

- 2020– *Graduate Research/Teaching Assistant*, **Cornell Tech**, New York, NY, USA
- 2023 (summer) *Associate Principal*, **Accenture**, San Francisco, CA, USA
- 2021 (summer) *Research Intern*, **Toyota Research Institute**, Los Altos, CA, USA (remote)
- 2017–2020 *Human-Machine Interface Researcher*, **Jaguar Land Rover**, Coventry, UK
- 2017 (summer) *Research Intern*, **National Taiwan University IoX Center**, Taipei, TW
- 2015 (fall) *Industrial Design Intern*, **Next Nature Network**, Amsterdam, NL

EDUCATION

- 2020-2025 *Information Science (Ph.D.)*, **Cornell University**, New York, NY, USA
- 2020-2023 *Information Science (M.S.)*, **Cornell University**, New York, NY, USA
- 2019 *Automotive HTI (5 M.Eng. credits)*, **Warwick University**, UK
- 2016-2018 *Artificial Intelligence (M.S.)*, **Utrecht University**, NL
- 2013-2016 *Industrial Design (B.S.)*, **TU Eindhoven**, NL

SKILLS

Software & Tools: GIMP, InkScape, LaTeX, InDesign, XD, Premiere, Photoshop, Illustrator, Python, R, git
Research: teaching, mentorship, collaboration, writing, electronics prototyping

SELECTED PUBLICATIONS

- Journal Articles Nermin Caber, Jiaming Liang, Bashar I. Ahmad, Simon Godsill, **Alexandra Bremers**, Philip Thomas, David Oxtoby, Lee Skrypchuk. "Driver Profiling and Bayesian Workload Estimation for Adaptive In-Vehicle HMI". In: *IEEE Transactions on Intelligent Vehicles*. 2023. DOI: <https://doi.org/10.48550/arXiv.2303.14720>.

Alexandra W.D. Bremers, Ali Özgür Yöntem, Kun Li, Daping Chu, Valerian Meijering, Christian P. Janssen. “Perception of Perspective in Augmented Reality Head-Up Displays”. In: *International Journal of Human-Computer Studies* (2021), p. 102693. I S S N: 1071-5819. D O I: <https://doi.org/10.1016/j.ijhcs.2021.102693>.

Conference
Papers

Alexandra Bremers, Maria Teresa Parreira, Xy Fang, Natalie Friedman, Adolfo Ramirez-Aristizabal, Alexandria Pabst, Mirjana Spasojevic, Mike Kuniavsky, Wendy Ju. “The Bystander Affect Detection (BAD) dataset for failure detection in HRI”. In: *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2023. D O I: <https://doi.org/10.48550/arXiv.2303.04835>.

Avital Dell’Ariccia, **Alexandra Bremers**, Johan Michalove, Wendy Ju. “How to make people think you’re thinking if you’re a drawing robot”. In: *Proceedings of the 17th ACM Conference on Human-Robot Interaction*. 2022. D O I: <https://doi.org/10.1109/HRI53351.2022.9889638>.

David Goedicke, **Alexandra Bremers**, Sam Lee, Fanjun Bu, Hiroshi Yasuda, Wendy Ju. “XR-OOM: MiXed Reality Driving Simulation With Real Cars”. In: *Proceedings of the ACM International Conference on Human Computer Interaction (CHI)*. 2022. D O I: <https://doi.org/10.1145/3491102.3517704>.

Datasets

Alexandra Bremers, Xuanyu Fang, Natalie Friedman, Wendy Ju. “Data for: The Bystander Affect Detection (BAD) Dataset for Failure Detection in HRI”. In: QDR Main Collection, 2023. D O I: <https://doi.org/10.5064/F6TAWBGS>.

Pre-prints

Alexandra Bremers, Alexandria Pabst, Maria Teresa Parreira, Wendy Ju. “Using Social Cues to Recognize Task Failures for HRI: A Review of Current Research and Future Directions”. In: 2023 (under review). D O I: <https://doi.org/10.48550/arXiv.2301.11972>.

Alexandra Bremers, Natalie Friedman, Sam Lee, Tong Wu, Eric Laurier, Malte Jung, Jorge Ortiz, Wendy Ju. “(Social) Trouble on the Road: Understanding and Addressing Social Discomfort in Shared Car Trips”. In: 2023. U R L: <https://arxiv.org/abs/2311.04456>.

Demos &
Abstracts

Alexandra Bremers, Wendy Ju. “Designing Interactions for Mixed-Initiative Machines: Balancing Automation and Craftsmanship”. In: *1st International Workshop on Worker-Robot Relations at the 19th Annual ACM/IEEE International Conference on Human-Robot Interaction*. 2024.

Fanjun Bu, **Alexandra Bremers**, Mark Colley, Wendy Ju. “Field Notes on Deploying Research Robots in Public Spaces”. In: *Extended Abstracts of the 2024 ACM International Conference on Human Computer Interaction (CHI)*. 2024.

Itay Grinberg, **Alexandra Bremers**, Louisa Pancoast, Wendy Ju. “Implicit collaboration with a drawing machine through dance movements”. In: *ACM Symposium on Computational Fabrication*. 2023. D O I: <https://doi.org/10.48550/arXiv.2310.00215>.

Avital Dell’Ariccia, **Alexandra Bremers**, Wen-Ying Lee, Wendy Ju. “Work in Progress: “Ah! He wants to win!”: Social responses to playing Tic-Tac-Toe against a physical drawing robot”. In: *Adjunct Proceedings of the 2022 ACM International Conference on Tangible and Embodied Interaction*. 2022. D O I: <https://doi.org/10.1145/3490149.3505571>.

HONOURS & AWARDS

Fellowships

Royal Commission of 1851 Industrial Fellowship (2020), £90,000
PhD Fellowship (University of Cambridge). Declined in order to accept Cornell offer.

Honours &
Awards

Oxford-Cambridge Rising Women in Science and Engineering (2018)
Bruynzeel Storage Systems, Designing the Office, 2nd Student Prize (2015)
Schoolkrantawards, Best Dutch School Paper (Content & Layout) (2012)