

ALEXANDRA BREMERS

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EDUCATION

- 2020- **Ph.D. in Information Science**, Cornell University, USA
- 2020-2023 **M.S. in Information Science**, Cornell University, USA
- 2016-2018 **M.S. in Artificial Intelligence**, Utrecht University, Netherlands
- 2013-2016 **B.S. in Industrial Design**, Eindhoven University of Technology, Netherlands

INDUSTRY RESEARCH EXPERIENCE

- 2023 (summer) **Associate Principal**, Accenture Labs (R&D), San Francisco, CA, USA
- 2021 (summer) **Research Intern**, Toyota Research Institute, Los Altos, CA, USA
- 2017-2020 **Human-Machine Interface Researcher**, Jaguar Land Rover, Coventry, UK

ACADEMIC RESEARCH EXPERIENCE

- 2020- **Graduate Research Assistant**, Cornell University, USA
- 2017-2020 **Industry Liaison (through Jaguar Land Rover)**, Cambridge University, UK
- 2017 (summer) **Research Intern**, NTU IoX Center, National Taiwan University, Taiwan

DESIGN & ART EXPERIENCE

- 2019 **Exhibitor**, Temperance Gallery, Leamington, UK
- 2015 **Exhibitor**, Arthouse United-C, Eindhoven, Netherlands
- 2015 (fall) **Industrial Design Intern**, Next Nature Network, Amsterdam, Netherlands
- 2013-2016 **Exhibition Assistant** Fiber Festival / GLOW / Dutch Design Week / Baltan Labs / Mediamatic, Netherlands

EDUCATION (OTHER)

- 2019 **M.Eng. Automotive Human-Technology Interaction (5 credits)**, Warwick University, UK

PUBLICATIONS

- Journal Articles [J1] **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>.
- [J2] Natalie Friedman, **Alexandra Bremers**, Adelaide Nyanyo, Ian Clark, Yasmine Kotturi, Laura Dabbish, Wendy Ju, Nikolas Martelaro. “Understanding the Challenges of Maker Entrepreneurship”. In: *Proceedings of the ACM on Human-Computer Interaction (PACM HCI): Computer-Supported Collaborative Work*. 2024.
- [J3] 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. D O I: <https://doi.org/10.48550/arXiv.2303.14720>.
- Conference Proceedings [C1] **Alexandra Bremers**, Wendy Ju. “Can Machines Tell What People Want? Bringing Situated Intelligence to Generative AI”. In: *HTTF 2024: Proceedings of the Halfway to the Future Symposium*. 2024.
- [C2] **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: *2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2023. D O I: <https://doi.org/10.1109/IROS55552.2023.10342442>.
- [C3] Natalie Friedman, Asmita Mehta, Kari Love, **Alexandra Bremers**, Awsaf Ahmed, Wendy Ju. “A utility belt for an agricultural robot: reflection-in-action for applied design research”. In: *HTTF 2024: Proceedings of the Halfway to the Future Symposium*. 2024. U R L: <https://arxiv.org/abs/2312.14358>.
- [C4] Maria Teresa Parreira, Sukruth Gowdru Lingaraju, Adolfo Ramirez-Aristizabal, **Alexandra Bremers**, Manaswi Saha, Michael Kuniavsky, Wendy Ju. ““Bad Idea, Right?” Exploring Anticipatory Human Reactions for Outcome Prediction in HRI”. In: *2024 IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)*. 2024.
- [C5] 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>.
- Other Formats (Demos, Videos & Datasets) [O1] **Alexandra Bremers**, Xuanyu Fang, Natalie Friedman, Wendy Ju. “Data for: The Bystander Affect Detection (BAD) Dataset for Failure Detection in HRI”. In: *V1. Qualitative Data Repository: QDR Main Collection*. QDR Main Collection, 2023. D O I: <https://doi.org/10.5064/F6TAWBGS>.
- [O2] 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>.
- [O3] 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>.
- Extended Abstracts [EA1] **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: *CUI ’24: Proceedings of the 6th International Conference on Conversational User Interfaces*. 2024. U R L: <https://dl.acm.org/doi/10.1145/3640794.3665580>.
- [EA2] **Alexandra Bremers**, Manaswi Saha*, Adolfo Ramirez-Aristizabal. “Situated Conversational Agents for Task Guidance: A Preliminary User Study”. In: *CUI ’24: Proceedings of the 6th International Conference on Conversational User Interfaces*. (* = Shared first-authorship.) 2024. U R L: <https://dl.acm.org/doi/10.1145/3640794.3665575>.
- [EA3] **Alexandra Bremers**. “A computer that sketches along with you”. In: *Creativity and Cognition: Graduate Symposium*. C&C ’22. Venice, Italy, 2022. D O I: <https://doi.org/10.1145/3527927.3533732>.
- [EA4] **Alexandra Bremers**. “How can a robot help people draw?” In: *Companion Publication of the 2021 ACM Designing Interactive Systems Conference: Doctoral Consortium*. DIS ’22 Companion. Virtual Event: Association for Computing Machinery, 2022. D O I: <https://doi.org/10.1145/3532107.3532876>.

[EA5] 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): Late Breaking Work*. 2024. DOI: <https://doi.org/10.1145/3613905.3651044>.

[EA6] Avital Dell’Ariccia, **Alexandra Bremers**, Wen-Ying Lee, Wendy Ju. “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: Work-in-Progress*. 2022. DOI: <https://doi.org/10.1145/3490149.3505571>.

[EA7] David Goedicke, **Alexandra Bremers**, Hiroshi Yasuda, Wendy Ju. “XR-OOM: Mixing Driving Environments with Virtual Objects Safely”. In: *Adjunct Proceedings of the 2021 ACM International Conference on Automotive Interfaces and Vehicular Applications: Work-in-Progress*. 2021. DOI: <https://doi.org/10.1145/3473682.3480266>.

[EA8] Natalie Friedman, Kari Love, **Alexandra Bremers**, AJ Parry, Ray LC, Bolor Amgalan, Jen Liu, Wendy Ju. “Designing Functional Clothing for Human-robot Interaction”. In: *Companion of the 2021 ACM/IEEE International Conference on Human-Robot Interaction*. 2021, pp. 703–705. DOI: <https://doi.org/10.1145/3434074.3444870>.

Workshops & Posters

[W1] **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. DOI: <http://dx.doi.org/10.13140/RG.2.2.22111.06562>.

[W2] **Alexandra Bremers**, Maria Teresa Parreira, Wendy Ju. “Understanding Bystander Facial Responses to Robot Task Failures with the BAD Dataset”. In: *The Imperfectly Relatable Robot: An interdisciplinary workshop on the role of failure in HRI at the 18th Annual ACM/IEEE International Conference on Human-Robot Interaction*. 2023.

[W3] Natalie Friedman, **Alexandra Bremers**, Bolor Amgalan, Ray LC, AJ Parry, Kari Love, Wendy Ju. “Clothing for Robot Identity”. In: *Robo-Identity: Designing for Identity in the Shared World. Workshop co-located at the 19th Annual ACM/IEEE International Conference on Human-Robot Interaction*. 2024.

[W4] Maria Teresa Parreira, Sukruth Gowdru Lingaraju, Adolfo Ramirez-Aristizabal, **Alexandra Bremers**, Manaswi Saha, Michael Kuniavsky, Wendy Ju. “Bad Idea? Exploring Anticipatory Human Reactions for Outcome Prediction”. In: *NERC Northeast Robotics Colloquium*. 2023.

Under Review & Pre-prints

[R1] **Alexandra Bremers**, Alexandria Pabst, Maria Teresa Parreira, Wendy Ju. “Using Social Cues to Recognize Task Failures for HRI: Overview, State-of-the-Art, and Future Directions”. In: *(under review)*. 2023. DOI: <https://doi.org/10.48550/arXiv.2301.11972>.

[R2] Lunshi Zhou, **Alexandra Bremers**, Wendy Ju. “Initiative and Materiality: Exploring Mixed-Initiative Calculators with the Tangible Human-A.I. Interaction Framework”. In: *arXiv:2311.06360*. 2023. URL: <https://arxiv.org/abs/2311.06360>.

[R3] David Goedicke, Natalie Chyi, **Alexandra Bremers**, Stacey Li, James Grimmelmann, Wendy Ju. *Mutual Benefit: The Case for Sharing Autonomous Vehicle Data with the Public*. 2024. URL: <https://arxiv.org/abs/2409.01342>.

[R4] Maria Teresa Parreira, Ruidong Zhang, Sukruth Gowdru Lingaraju, **Alexandra Bremers**, Xuanyu Fang, Adolfo Ramirez-Aristizabal, Manaswi Saha, Michael Kuniavsky, Cheng Zhang, Wendy Ju. ““Why the face?”: Exploring Robot Error Detection Using Instrumented Bystander Reactions”. In: *under review*. 2024.

FELLOWSHIPS, HONORS & AWARDS

- 2023 Computing Research Association (CRA-WP) Grad Cohort for Women
- 2022 Cornell CIS Departmental Nominee, Google Fellowship
- 2022 Graduate Student Symposium, ACM Creativity & Cognition Conference
- 2022 Graduate Student Consortium, ACM Tangible, Embedded & Embodied Interaction Conference
- 2020 Royal Commission of 1851 Industrial Fellowship (£90,000)
Fellowship to pursue Engineering PhD at Cambridge University. Declined in order to accept Cornell offer.

- 2019 Finalist, Tata Innovista Awards
- 2019 Finalist, Jaguar Land Rover Innovista Awards
- 2018 Oxford-Cambridge Rising Women in Science and Engineering
- 2013-2016 Excellent (top 10%) for 3 semesters, Eindhoven University of Technology
- 2015 Second Prize, Designing the Office Competition, Bruynzeel Storage Systems
- 2013 Finalist, Stichting Ongehoord! Poetry Contest
- 2013 Discipulus Multus Meritis, Stedelijk Gymnasium Arnhem
- 2012 Best School Paper of The Netherlands: Overall & Design, Schoolkrantawards
- 2012 Best Report, Lions Club Arnhem Arenacum

GRANTS & SCHOLARSHIPS

- 2024 Cornell Library Open-Access Publishing Fund
- 2021-2024 Cornell Graduate School Conference Travel Grant (yearly)
- 2024 Cornell Bowers Computing & Information Science Grace Hopper Celebration Travel Grant
- 2022 Finnish Center for Artificial Intelligence HIIT/FCAI Travel Grant
- 2022 NSF ACM Creativity & Cognition Graduate Symposium Travel Grant
- 2021 Cornell Backslash Art Microgrant

PRESS COVERAGE

- 2024 **Mike Kuniavsky**, *Applied Distributed Cognition using foundation models and biosensing (a research agenda)*. Medium.
- 2024 **Accenture Tech Vision**, *How the "Human Interface" Measures Intent*.
- 2023 **Cambridge University**, *Using machine learning to monitor driver workload could help improve road safety*.
- 2022 **Cornell Chronicle**, *Mixed reality driving simulator: a low-cost alternative*.
- 2019 **Jaguar Land Rover**, *Jaguar Land Rover Develops Immersive 3D In-Car Experience with Head-Up Display Research*.
- 2019 **Yahoo! News**, *Jaguar Land Rover developing 3D in-car technology*
- 2019 **Forbes**, *To Prepare for an Autonomous Future, Jaguar Land Rover Brings 3D Augmented Reality into the Cabin*.

TALKS

- 2023 "Audio Task Guidance". Accenture Labs California.
- 2023 "Towards Mixed-Initiative Machines for Creatives". Cornell CIS Information Science.
- 2022 "Interaction Intelligence for HRI". Accenture Labs California. With Wendy Ju.
- 2022 "How can robots support human drawing?" Cornell Information Science Seminar.
- 2022 Panelist, "How can models inform design?". Schloss Dagstuhl, Seminar 22102, Germany.
- 2021 "Detecting design trends from autonomous vehicle data". Toyota Research Institute.
- 2021 "After RisingWISE". Oxford-Cambridge RisingWISE reunion. United Kingdom.
- 2021 "XR-OOM". XR-Monthly by the XR-Collective at Cornell Tech. With David Goedicke.

ADVISING

- 2023 Xuanyu Fang, Itay Grinberg
- 2022 Cooper Murr, Lunshi Zhou, Tobias Weinberg
- 2021 Avital Dell'Ariccia, Sam Lee

TEACHING

- 2022 (F) TA, Developing and Designing Interactive Devices with Wendy Ju, Cornell University
- 2021 (F) TA, Developing and Designing Interactive Devices with Wendy Ju, Cornell University
- 2021 (S) TA, Topics in Mixed Reality with Harald Haraldsson, Cornell University
- 2011-2016 Private Tutor, Stedelijk Gymnasium Arnhem / StudentsPlus, Netherlands

DEPARTMENTAL SERVICE

- 2020- Assistant to the founding Task Force, Design + Technology Department, Cornell University, USA
- 2021-2022 Co-President, Information Science Graduate Student Association (ISGSA), Cornell University, USA
- 2016-2017 Founder and President, A.I. M.S. students association (mAIsTer), Utrecht University, Netherlands

ACADEMIC CONFERENCE SERVICE

- 2024 Student Volunteer, IEEE UR
- 2023 Student Volunteer, ACM SIGGRAPH
- 2021 Social Media Chair, ACM DIS
- 2020 Moderator, ACM Auto-UI

2019 Visual Design Chair, ACM Auto-UI

ACADEMIC PEER REVIEWER

2024 ACM DIS/HRI/CHI/CSCW/HTTF, Springer VR/ICSR

2023 ACM THRI

2022 ACM CHI

2021 ACM Auto-UI/IMWUT/DIS, IEEE IV

2020 ACM CHI

2019 ACM Auto-UI

PROFESSIONAL MEMBERSHIPS

Association for Computing Machinery (ACM)

Institute of Electrical and Electronics Engineers (IEEE)