

# Alexandra W.D. Bremers

Cornell Tech (NYC), Cornell University  
[awb227@cornell.edu](mailto:awb227@cornell.edu) / [bremers.github.io](https://bremers.github.io) / [\[Google Scholar\]](#)

Ph.D. Candidate working with Wendy Ju and François Guimbretière on intelligent machines that support people during creative tasks. I have 3+ years of full-time industrial R&D experience in the US and UK. Currently interning at Walt Disney Imagineering, continuing my exploration of art, interactivity, and technology.

## EDUCATION

- 2020-2026 **Ph.D. in Information Science**, Cornell University, New York, NY, USA  
(expected) Dissertation: "Towards Designing Mixed-Initiative Machines for Creatives."  
Committee: Dr. Wendy Ju (chair), Dr. Francois Guimbretiere, Dr. Steve Marschner (CS minor).
- 2020-2023 **M.S. in Information Science**, Cornell University, New York, NY, USA
- 2019 **Coursework in Automotive Human-Technology Interaction (5 M.Eng. credits)**, Warwick University, UK
- 2016-2018 **M.S. in Artificial Intelligence**, Utrecht University, The Netherlands  
Thesis: "Perception of Perspective in Augmented Reality Windscreens."  
Advisors: Dr. Chris Janssen, Valerian Meijering (Jaguar Land Rover).
- 2013-2016 **B.S. in Industrial Design**, Eindhoven University of Technology, The Netherlands  
Graduation Project: "How to Embroider a Radio"

## EMPLOYMENT HISTORY

- 2020– **Graduate Assistant**, Cornell University, New York, NY, USA
- Managed team research projects funded by Amada, Toyota (TRI), Accenture, Nissan, NSF
  - Prototyped interactive systems (Arduino, Jetson Nano, Hololens, Unity, Python, Microsoft Psi)
  - Qualitative research including brainstorming, interviews and field visits (Adobe CS, Figma, Miro, Atlas.ti)
  - Designed and ran quantitative surveys (Qualtrics) and performed statistical analysis (R, Python)
  - Mentored 5 undergraduates and master students and served as a TA 4x for master's level CS classes
- 2025 (summer) **Research Intern (Lab Associate)**, Walt Disney Imagineering, Glendale, CA, USA
- Situated in WDI Research & Development.
- 2023 (summer) **Research Intern (Associate Principal)**, Accenture Labs (R&D), San Francisco, CA, USA
- Designed and engineered Wizard-of-Oz task assistance system using Raspberry Pi and cameras
  - Experimental design of in-person lab study, analyzed data with R, and presented at ACM CUI 2024
- 2021 (summer) **Research Intern**, Toyota Research Institute, Los Altos, CA, USA (*remote*)
- Analyzed and visualized a street image dataset (Git, Jupyter, Docker, S3, Python, R)

2017–2020 **Human-Machine Interface Researcher**, Jaguar Land Rover, Coventry, UK

- Led 2 research collaborations with Cambridge University, resulting in 2 journal articles
- Developed protocols and conducted HCI/human factors studies on the bench, simulator, and on-road
- Designed HMI research prototypes using Adobe CS and Arduino for internal demonstrations
- Delivered reports on GDPR and human factors to Product Engineering, informing product requirements
- Collaborated in cross-functional teams using Jira/Confluence, Rational Rhapsody and MS Office
- Oxford-Cambridge Rising Women in Science and Engineering, Global Finalist in Tata and JLR Innovista

2017 (summer) **Research Intern**, NTU IoX Center, National Taiwan University, Taipei, Taiwan

- Designed a smart home user interface and used it as a probe for semi-structured qualitative interviews

2015 (fall) **Industrial Design Intern**, Next Nature Network, Amsterdam, Netherlands

- Used Arduino to program a remote-controlled RGB LED ring for a smart belt prototype
- Managed exhibits at Dutch Design Week and trade shows (logistics, graphic design and presenting)

## SKILLS

*Software & Tools:* LaTeX, Adobe Creative Suite, Python, R, git, psi, Qualtrics, Arduino, Unity

*UX Research:* surveys, contextual inquiry, qualitative interviews, experimental design, data analysis

*Design:* sketching, wireframing, storyboarding, prototyping, fabrication (3D & wearables)

*General:* collaboration, writing, project management, mentorship, communication, intercultural awareness

## LANGUAGES

Dutch (native), English (proficient)

## 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. ISSN: 1071-5819. DOI: <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*. 2025 (forthcoming). DOI: <https://arxiv.org/abs/2501.13765>.
- [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. DOI: <https://doi.org/10.1109/TIV.2023.3313419>.
- 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. DOI: <https://doi.org/10.1145/3686169.3686172>.

[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. DOI: <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. URL: <https://doi.org/10.1145/3686169.3686189>.

[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. URL: <https://doi.org/10.1109/RO-MAN60168.2024.10731310>.

[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. DOI: <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: *Vi. Qualitative Data Repository: QDR Main Collection*. QDR Main Collection, 2023. DOI: <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. DOI: <https://doi.org/10.1145/3623263.3629150>.

[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. DOI: <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. URL: <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. URL: <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. DOI: <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. DOI: <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

- 2025 Cornell Tech PiTech AI in Arts & Culture Fellowship (\$3,000)
- 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, Cambridge University & Jaguar Land Rover (£90,000)  
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 (€ 500)
- 2013 Finalist, Stichting Ongehoord! Poetry Contest
- 2013 Discipulus Multus Meritis, Stedelijk Gymnasium Arnhem

- 2012 Best School Paper of The Netherlands: Overall & Design, Schoolkrantawards (€ 500)
- 2012 Best Report, Lions Club Arnhem Arenacum (€ 200)

## G R A N T S   &   S C H O L A R S H I P S

- 2024 Cornell Backslash Art Microgrant (\$500)
- 2024 Cornell Library Open-Access Publishing Fund (\$350)
- 2021-2024 Cornell Graduate School Conference Travel Grant (\$700, yearly)
- 2024 Cornell Bowers Computing & Information Science Grace Hopper Celebration Travel Grant (\$1,500)
- 2022 Finnish Center for Artificial Intelligence HIIT/FCAI Travel Grant (€ 3,500)
- 2022 NSF ACM Creativity & Cognition Graduate Symposium Travel Grant (\$1,900)
- 2021 Cornell Backslash Art Microgrant (\$500)

## P R E S S   C O V E R A G E

- 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*.

## T A L K S

- 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.

## A D V I S I N G

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

## T E A C H I N G

- 2025 (S) TA, Designing Ubiquitous and Interactive Computing Devices with Joey Castillo, Cornell University
- 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

## D E P A R T M E N T A L   S E R V I C E

- 2025- Supermaker (volunteer instructor) at the MakerLAB, Cornell Tech, USA
- 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

## A C A D E M I C   S E R V I C E

- 2025 Area Chair, ACM DIS
- 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

## A C A D E M I C   P E E R   R E V I E W E R

- 2025 ACM DIS/HRI, Taylor & Francis The Information Society
- 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

## VOLUNTEERING

- 2015 Exhibition Guide, Fiber Festival "The Subterranean", Amsterdam, NL
- 2013 Soldering Tutor, Dutch Design Week "Design in Progress", Eindhoven, NL
- 2013 Exhibition Guide, GLOW Festival "GLOW Next", Eindhoven, NL

## PROFESSIONAL MEMBERSHIPS

Association for Computing Machinery (ACM)  
Institute of Electrical and Electronics Engineers (IEEE)  
New York Academy of Sciences (NYAS)  
Computing Research Association (CRA)