NATALIE FRIEDMAN
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EDUCATION

Cornell Tech - New York, New York — August 2019 - Present
Ph.D. Student, Information Systems (Cornell)

- *Coursework: Information, Technology, & Society, Computational Methods for Information Science Research*
- *Teaching assistant:* Interactive Device Design, Fall 2019

Cornell Tech - New York, New York — August 2018 - February 2019
M.S., Applied Information Science (Technion) & M.S., Information Systems (Cornell)

- *Coursework:* Human- Computer Interaction + Design, Psychological and Social Aspects of Technology, Applied Machine Learning, Product Studio, Becoming a Leader in the Digital World

University of California, Santa Cruz - Santa Cruz, California — September 2014 - June 2018
B.S., Cognitive Science with emphasis in Human-Computer Interaction

- *Major GPA: 3.78, Cumulative GPA: 3.82*
- *Coursework:* User Experience, Human- Computer Interaction, Intro Programming Python, Creative Strategies for Designing Interactive Media, Human-Robot Interaction, Psychology Research Methods, Universal Access in Technology, Neural Modeling

University of Copenhagen - Copenhagen, Denmark — August 2016 - January 2017
University of California Education Abroad Program
Psychology Department- GPA: 4.0

Research Interests: HCI, HRI, telepresence, motion, assistive technology, engagement, presence, self-extension, personal information management

RESEARCH EXPERIENCE

CORNELL TECH, NEW YORK, NY

Future Automation Research, *Research Assistant* — August 2018 - Present
Assist Dr. Wendy Ju with literature review, study design, and protocol for projects including:

- Collaborate with a Human-Experience and Team-Oriented Technology Lab at Technion University to design and run a cross-cultural study on driving in ambiguous situations
- Prototype designed robot motion, collect perceptions via Mechanical Turk, and qualitatively and quantitatively analyze responses
- Design and run needfinding interviews and design activities about devices that people with Tetraplegia use in order to design appropriate voice-activated systems
- Wizard of Oz chair robot to interact with humans in public spaces

UNIVERSITY OF CALIFORNIA, SANTA CRUZ, CA

Re-embodied Cognition Lab, *Research Assistant* — March 2017 - June 2018
Assist Dr. Leila Takayama with literature review, study design, and protocol for projects including a senior thesis: *Achieving a Feeling of Mobility and Exploration Through Telepresence* and *How Can Different Physical Dimensions of Robots have an Effect on Loneliness?*

- Collaborate with a Human-Robot Interaction lab, The Assistive Technology lab, The Stroke and Disability Learning Center, and The Seymour Marine Discovery Center to enable stroke patients to explore an aquarium remotely.
- Manage a team of 5 undergraduates to conduct a literature review on Human-robot interaction topics including: telepresence, embodiment, stroke survivors, mobility therapy in order for the team to design and run experiment protocol.

ASSIST Lab, *Research Assistant* December 2015 - June 2018

Assist Dr. Sri Kurniawan's team in exploring assistive socio technical solutions for individuals with special needs using technology. Worked on *Spokeit: A speech therapy application* and *Vizsnap: a photo application for the blind*

- Transcribed and coded audio data from patients who have cleft palate speech impairments
- Analyzes critiques from users and developed themes
- Run usability tests and present study designs to contribute to new iterations of speech therapy application original version *Speech with Sam*

BAR ILAN UNIVERSITY, ISRAEL

Personal Information Management, *Research Assistant* November 2017 - June 2018

Assist Dr. Ofer Bergman's team in designing a system of variables and conditions within the field of Personal Information Management for academic researchers to utilize.

- Used Structured Query Language to manage data in the field of Personal Information Management
- Read a breadth of Personal Information Management literature and assigned variables and conditions to groups

Human-Computer Interaction Lab, *Research Assistant* June 2016 - June 2017

Administering experiments for Professor Steve Whittaker and PhD student Charlotte Massey to support their research on the relationship between emotions and the user's organization of digital information

- Conducted user research with up to 100 volunteer participants
- Instructing participants to watch an emotionally triggering video, administering surveys, and instruct them to organize and retrieve digital files
- Watching and coding video files

INDUSTRY EXPERIENCE

MITRE, Bedford, MA June 2020 - August 2020

Not-for-profit organization that manages federally funded research and development centers supporting several U.S. government agencies.

- Synthesize literature to improve observability in an acquisition software application
- Annotate and analyze transcripts from an Online Dispute Resolution software application
- Design interview protocols to understand facilitator user experiences
- Conduct qualitative research on interviews of facilitators

SAMSUNG AI CENTER, Montreal, QC May 2019 - August 2019

A research and development center that focuses on Artificial Intelligence, localization, and social robotics.

- Design studies to understand robot politeness using multi-modal features for a robot
- Conduct studies in the field by recruiting participants, operating robots, distributing questionnaires
- Analyze quantitative (likert scale) results, and qualitative analysis (video coding)

ANKI, San Francisco, CA June 2018 - August 2018

A consumer electronics company that creates robots that "move you" through home entertainment.

Consumer Insights, User Experience Research Intern
- Synthesize usability research from playtests per robot feature
- Analyze user perception data
- Create videos displaying users perceptions to inform UX designers and engineers work

SAVIOKE, San Jose, CA June 2017 - September 2017
Designs, manufactures, and deploys robots to service industries including hospitality, healthcare, and logistics.
User Experience Research, Product Intern
- Wrote a recommendation book on Human-Robot Interaction in order to inform future design
- Conducted observational user research at hotel sites in order to inform storyboard iterations
- Produced in-house storyboarding with users on service recovery scenarios and resolutions
- Studied literature review and submit design implications for the service robot

PUBLICATIONS

Natalie Friedman, David Goedicke, Vincent Zhang, Dmitriy Rivkin, Michael Jenkin, Ziedune Degutyte, Arlene Astell, Xue Liu, Gregory Dudek, Active Vision Human Robot Collaboration Workshop: Out of my way! Exploring Different Modalities for Robots to Ask People to Move Out of the Way, In Proceedings of RO-MANN'20, (RO-MANN'20). ACM, Virtual Event, USA.

Marcel Walch, Stacey Li, Ilan Mandel, David Goedicke, Natalie Friedman, Wendy Ju, Work In Progress: Crosswalk Cooperation: A Phone-Integrated Driver-Vehicle Cooperation Approach to Predict the Crossing Intentions of Pedestrians in Automated Driving, In Proceedings of AutomotiveUI '20, (AutoUI'20). ACM, Virtual Event, USA.

Ray LC, Natalie Friedman, J.D. Zamfirescu-Pereira, Wendy Ju. The Forgotten In HRI Workshop Position: Agents of Spatial Influence: Designing incidental interactions with arrangements and gestures. In Proceedings of HRI '20, (HRI '20). ACM, New York, NY, USA.

Natalie Friedman. Art Meets Tech Workshop Position: Robot Readability and Video Prototyping. In Proceedings of CHI '20, (CHI '20). ACM, New York, NY, USA.

Natalie Friedman, David Goedicke, Vincent Zhang, Dmitriy Rivkin, Michael Jenkin, Ziedune Degutyte, Arlene Astell, Xue Liu, Gregory Dudek. Integrating Multidisciplinary Approaches to Advance Physical Human-Robot Interaction Workshop: Capturing Attention With Wind. In ICRA 2020.

Natalie Friedman, Andrea Cuadra, Ruchi Patel, Shiri Azenkot, Joel Stein & Wendy Ju. 2019. Voice Assistant Strategies and Opportunities for People with Tetraplegia. In Proceedings of the 21st International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '19). ACM, Pittsburg, PA, USA, doi: 10.1145/3308561.3354605

Natalie Friedman. Workshop Position: Noticing as a Robot. In Proceedings of DIS '19: Contesting Borders and Intersections (DIS '19). ACM, New York, NY, USA.

Natalie Friedman. 2018. Using a Telepresence Robot to Improve Self-Efficacy of People with Developmental Disabilities. In Proceedings of the 20th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '18). ACM, Galway, Ireland, doi: 10.1145/3234695.3240985

Jared Duval, Zachary Rubin, Elena Márquez Segura, Natalie Friedman, Milla Zlatanov, Louise Yang, and Sri Kurniawan. 2018. SpokeIt: building a mobile speech therapy experience. In Proceedings of the 20th International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI '18). ACM, New York, NY, USA, Article 50, 12 pages. DOI: https://doi.org/10.1145/3229434.3229484

Friedman, N. 2017. Human-Robot Interaction: Implications for Design. Savioke: Self-published. San Jose, CA, ISBN-13: 978-1976351051

Adams, D., Kurniawan, S., Herrera, C., Kang, V., & Friedman, N. 2016. Blind Photographers and VizSnap. In Proceedings of the 18th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '16). Reno, Nevada, USA, doi:10.1145/2982142.2982169

PRESENTATIONS

2018 Student Research Competition Finalist, ASSETS
2018 Poster Presenter, Seymour Marine Discovery Center
2018 Poster Presenter, University of California, Santa Cruz, Psi Chi
2018 Poster Presenter, University of California, Santa Cruz, Koret Poster Session
2017 Panelist, Human Factors, University of California, Santa Cruz
2017 Panelist, Studying Abroad Workshop, University of California, Santa Cruz

AWARDS & HONORS

2020 \Art Micro Grant Award for Materials and Robots. $500.
2020 NSF Research Fellowship Program (GRFP) Honorable Mention
2018 - 2019 Cornell Merit Scholarship, Cornell Tech. $27,500.
2018 Student Research Competition 1st Place: ACM International Conference on Computers and Accessibility (ASSETS). $500.
2018 Koret Scholarship: Increasing Accessibility to the Seymour Marine Center through Telepresence, UCSC undergraduate research support. $1,000.
2018 Outstanding Researcher Award, Psychology Department, University of California, Santa Cruz
2018 - Present Phi Beta Kappa member
2014 - 2018 Dean's List: 5 quarters, University of California, Santa Cruz

SKILLS

Research Methods: literature reviews, interviews, questionnaires, personas, A/B testing, storyboards
Programming: Python, SQL
Certifications: Internal Review Board CITI training
Design: InDesign, WordPress, Adobe XD, Sketch, InVision
Languages: English, Hebrew
Office: Microsoft Office, Google Drive

ACTIVITIES

2020 Teaching Girl Scouts How to Build Robots, Cornell Tech
2019 Student Volunteer, ACM conference on Designing Interactive Systems (DIS)
2018 Grader, Universal Access: Disability, Technology and Society, UCSC
2016 - 2018 Volunteer, Student Health Outreach and Promotion, UCSC
2014 - 2018 Board Member, Writer, Art Director, Leviathan Jewish Journal, UCSC