Tobias Weinberg

New York, NY | tobiwg.com
tmw88@cornell.edu

— Profile Summary

I am a CS PhD Candidate at Matter of Tech Lab, and Apple AIML PhD Scholar Fellow, advised by Prof. Thijs Roumen at Cornell Tech and co-advised by Prof. Stephanie Valencia from UMD. My research interests center on reimagining augmentative and alternative communication (AAC) as a vehicle for personal expression rather than a mere substitute for speech. I develop AI-driven tools that transcend basic transactions to foster truly expressive conversational engagement. I focus on creating and researching AAC systems that prioritize user agency and personal identity. By addressing privacy and adaptability, my work seeks to unlock meaningful communication for those whose expressive voices are often ignored.
My research is supported by the Apple Scholar in AIML PhD Fellowship (2026)

Areas of interest: accessibility, disability, AAC, expressive communication, LLMs, human-AI interaction, human-centered machine learning, and HCI.

Ph.D. Computer Science — 2023 - Present, New York City, NY
Cornell University / Cornell Tech
Matter of Tech Lab advised by Prof. Thijs Roumen
My work focuses on enhancing expressivity in augmentative and alternative communication (AAC) systems, particularly in human-AI interaction. I am exploring the balance between agency and efficiency to develop more adaptive and expressive AAC technologies

Master's (MS) Computer Science — Oct 2025 , New York City, NY
Cornell University / Cornell Tech

Bachelor of Science in Mechanical Engineering — 2019 - 2023, Haifa, Israel
Technion - Israel Institute of Technology

— Publications at Top-tier HCI Conferences

Tobias Weinberg, Aaleyah Lewis, Ricardo E Gonzalez Penuela, Weicong Hong, Jennifer Mankoff, Thijs Roumen Me, Myself, and My Voice: Exploring Cultural and Linguistic Identity in AAC AI-generated Voices 2026 [Project page] **ASSETS2026**

Tobias Weinberg, Ricardo E. Gonzalez Penuela, Stephanie Valencia, Thijs Roumen. I, Robot? Exploring Ultra-Personalized AI-Powered AAC; An Autoethnographic Account. 2026 [Project page] **CHI2026**

Shuo Feng , Lavenda Yifan Shan , Xuening Wang , Ritik Batra, **Tobias Weinberg**, and Thijs Roumen. CAMeleon: Interactively Exploring Craft Workflows in CAD. 2026 [Project page] **CHI2026**

Tobias Weinberg, Claire O'Connor, Ricardo E. Gonzalez Penuela, Stephanie Valencia, Thijs Roumen. One Does Not Simply 'Mm-hmm': Exploring Backchanneling in the AAC Micro-Culture. [Project page] **ASSETS 2025**

Tobias Weinberg, Kowe Kadoma, Ricardo E. Gonzalez Penuela, Stephanie Valencia, Thijs Roumen. Why So Serious? Exploring Timely Humorous Comments in AAC Through AI-Powered Interfaces. [Project page] **CHI2025**
- Best Paper Honorable Mention Award (best 5%)🏅 - Jury Best Demo Award 🏆

Amritansh Kwatra, **Tobias Weinberg,** Ilan Mandel, Ritik Batra, Peter He, Francois Guimbretiere, Thijs Roumen. SplatOverflow: Asynchronous Hardware Troubleshooting. [Project page] **CHI2025 - Best Paper Honorable Mention Award (best 5%)🏅**

— Work Experience

Google Research / Student Researcher Summer 2026, Boulder, CO

Working with Senior Researcher Shaun Kane on designing an AI-powered AAC probe that enables quick reactions to digital media. This project explores how people with speech disabilities could expressively react in real time to videos and digital content and the shared social experience of watching digital media with friends or family

University of Washington / Research Assistant Summer 2025, Seattle, WA

Working with Prof. Jennifer Mankoff on designing AI-powered AAC systems that enable multicultural expression. This project explores how people with speech disabilities can represent their cultural voice identities through agentic tools that capture diverse linguistic backgrounds, communication norms, and cultural practices.

YAI Seeing Beyond Disability / Intern 2024 - 2025, New York, NY

At YAI, I developed and implemented a data-driven smart home platform for group homes, equipping staff with real-time insights to enhance care, safety, and efficiency for individuals with disabilities. My role encompassed full-stack web development, IoT integration, and real-time data processing and visualization.

Matter of Tech Lab at Cornell Tech / Research Intern 2022 - 2023, Remote from Haifa, Israel

Working with Prof. Thijs Roumen at Matter of Tech lab, we researched how to leverage digital fabrication using ultrasound manipulation. Including contactless fluid 3D manipulation using ultrasound, Unity simulations, and design and engineering of a system for dispensing droplets on demand.

FAR Lab at Cornell Tech / Research Intern Summer 2022, New York, NY

Working with Prof. Wendy Ju at FAR lab where we research human-robot interaction. I developed a robot control interface using computer vision, FLASK, and MQTT for human-robot interaction studies. I implemented ROS navigation algorithms with LiDAR and explored 3D modeling and rapid prototyping for a clay 3D printer.

— Awards and Honors

- Apple AIML PhD fellowship 2026
- Funded by Google Research Grant in 2025
- Jury Best Demo Award CHI'25 (#1 demo) - Why So Serious? Exploring Humor in AAC Through AI-Powered Interfaces 🏆
- Honorable Mention Award CHI'25 (best 5% of papers) - Why So Serious? Exploring Humor in AAC Through AI-Powered Interfaces 🏅
- Honorable Mention Award CHI'25 (best 5% of papers) - SplatOverflow: Asynchronous Hardware Troubleshooting 🏅
- Rubinstein PiTech PhD Innovation Fellow (Fall'24-Spring'25)
- Siegel Public Interest Technology Impact Fellowship (Summer 2024)
- Amazon cloud computing grant from Cornell Data Science Center (15K)
- Dean's List Honors: Faculty of Mechanical Engineering at the Technion, Top 15%; Spring 2021, Winter 2022, and Spring 2023