

Tobias Weinberg

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Dedicated to advancing augmentative and alternative communication (AAC) technologies, my research centers on developing systems to seamlessly integrate non-informative speech, enhancing expressivity for individuals with speech and motor impairments.

PhD Candidate at Matter of Tech Lab with Prof. Thijs Roumen.

My current areas of interest include accessibility Tech, robotics, AI, and additive manufacturing.

Education

Ph.D. Computer Science

Cornell University / Cornell Tech

Aug 2023 - Present, New York City, NY

Matter of Tech Lab supervised by Thijs Roumen

Courses: Advanced Topic in Operating Systems, Topics in Natural Language Processing and Machine Learning

Bachelor Of Science - Bs Mechanical Engineering

Technion - Israel Institute of Technology / Degree

Aug 2019 - Aug 2023, Haifa, Israel

GPA: 86.7/100

Core Courses: Control Theory, Kinematics Dynamics and Control of Robots, Machine Learning For Physiological Time Series Analysis

Research Experience

Matter of Tech Lab at Cornell Tech / Graduate Research

Aug 2023 - Present, New York, NY

Currently working on how to make humor more accessible by creating a tool that could support people with speech and motor impairments to create near real-time humorous interjections during a conversation.

Matter of Tech Lab at Cornell Tech / Research Intern

Oct 2022 - Aug 2023, New York, NY remote from Haifa, Israel

Working with Prof. Thijs Roumen lab where we research digital fabrication using ultrasound manipulation.

- Contactless fluid 3D manipulation using ultrasound
- Unity Simulations
- 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's Ju at FAR lab where we research human-robot interaction.

- Robot control interface using computer Vision, FLASK & MQTT
- ROS navigation algorithms and LiDAR integration

- Explored Clay 3D printer
- 3D modeling and rapid prototyping

JERICCO Project - Aerospace faculty Technion / Simulations & Control Engineer

Spring Semester 2022, Haifa, Israel

Project JERICCO is a mission to launch and operate the first ever student-designed nanosatellite in lunar orbit, in a joint effort between the Technion's Faculty of Aerospace Engineering and Israel Aerospace Industries (IAI) set to launch in 2025.

Supervisor: Niko Adamsky (IAI)

- Simulations of space, climate conditions, communications, and power systems to verify the design choices of the satellite
- Control algorithm of reaction wheels that will allow the satellite to navigate in space

UAV center Lab - Aerospace faculty Technion / Laboratory & Research Assistant

Oct 2019 - Aug 2023, Haifa, Israel

- Assembly of electronics and embedded systems
- Autonomous drone for defense - Dronenet Project
- 3D printing specialist
- 3D modeling in CAD

Honors & Awards

Dean's List honors

Winter 2021 and Spring 2023

Faculty of Mechanical Engineering at the Technion Top 15% of the class

Article in Leading Newspaper Newspaper (Infobae Argentina)

Mar 2023

["The young man with a brilliant mind and a rare illness who received a scholarship in the United States"](#) (in spanish)

Article in the American Technion Society

Oct 2022

["The sky is not the limit... turning ideas into reality to change the world"](#)

Teaching at Cornell Tech

Teaching Assistant - HCI and Design Fall 2023

~110 students

Teaching Assistant - Digital Fabrication Spring 2024

~50 Students

Work Experience

ORT Technical School / Laboratory Assistant

Mar 2017 - Apr 2018, Buenos Aires, Argentina

- Project management and assistance
- Assisting in hardware developments
- C#, java and web languages Teacher Assistant
- 3D printing specialist

Veggmap / Lead Programmer

Dec 2015 - Mar 2017, Buenos Aires, Argentina

App development for IOS and Android

- Project manager
- Algorithms for geolocation and SQL database management
- Developed server-end with PHP & MySQL
- Developed client-end with JavaScript, JQuery and HTML5

BETA Motor Argentina / Developer

Mar 2017, Buenos Aires, Argentina

Develop thin client terminals with Raspberry Pi for automation of the production line using Windows Server to thin client connection

Volunteering

Judge at FIRST Robotics Competition NYC Super Qualifiers

Oct 2023, New York, NY

Student Volunteer at ACM Symposium on User Interface Software and Technology (UIST)

Oct 2023, San Francisco, CA

Committee Member at Technion Robotics Initiative

2022, Haifa, Israel

Avionics & Control Engineer Advisor - Technion Rocketry Club

2022, Haifa, Israel

3D prosthesis Argentina Founder Member

Sep 2015, Buenos Aires, Argentina

Skills

Machine Learning	Robotics
Web Full-Stack Developer	3D Modeling
Computer Vision	Rapid Prototyping
Human Computer Interaction	Embedded Systems

Programming languages: Python, C, C#, JavaScript, Java, PHP, Arduino, MATLAB

Mech Eng.: 3D printing, laser cutting, CNC, Mechanical analysis

Design tools: CREO Parametric, Rhino, Solidworks, Fusion 360

