

Noa Shimshi

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EDUCATION

University of Pittsburgh, Frederick Honors College, Swanson School of Engineering
Pursuing Bachelor of Science in Computer Engineering, Certificate in Disability Studies

Expected May 2028
GPA: 3.42/4.00

RESEARCH EXPERIENCE

Human Engineering Research Laboratories, University of Pittsburgh

Jan 2026 - Present

Undergraduate Research Assistant, advised by Dr. Jorge Candiotti

- Developed the electronics and control system for a three-wheeled omnidirectional powered wheelchair built to study mobility and task performance for wheelchair users
- Designed custom multi-board PCBs in KiCad integrating the chair's microcontrollers, motor controllers, IMU, and power distribution
- Wrote embedded C firmware across a distributed Teensy 4.1/4.0 architecture to drive the omnidirectional wheels, seat elevation, and footrest through three RoboClaw motor controllers
- Built a wireless datalogging pipeline (ESP32 to UDP to MATLAB) streaming live encoder and IMU data for real-time monitoring
- Integrated a Raspberry Pi 5 and RPLIDAR unit for obstacle detection

WORK AND LEADERSHIP EXPERIENCE

Tikkun Olam Makers Global

2024 - Present

Club President

- Lead 30 members in interdisciplinary teams designing and prototyping assistive technology devices across five active client projects for individuals in the Pittsburgh community
- Grew the chapter from 6 to 30 members year over year through presentations in freshman engineering courses and at club fairs
- Selected as one of 80 TOM Global Fellows worldwide to launch and lead the Pitt chapter, managing programming and community outreach

University of Pittsburgh

Spring 2026

Teaching Assistant for ENGR0717, Honors Foundations of Engineering Design

- Mentored student teams through a semester-long design course, guiding cornerstone projects from early concept to final deliverables
- Offered scaffolded support that got teams unstuck early while encouraging independent problem-solving as their designs matured
- Graded assignments and gave feedback on design documentation and prototypes

University of Pittsburgh

Fall 2025

Teaching Assistant for ENGR0711, Honors Engineering Analysis and Computing

- Instructed 60 freshmen on MATLAB and C programming concepts during weekly office hours and one-on-one guidance
- Assisted the professor with answering student questions and grading assignments
- Supported students' transition to college through study tips and organizational strategies

INTERNATIONAL EDUCATIONAL EXPERIENCE AND RELEVANT COURSEWORK

University of Pittsburgh Plus3 Study Abroad in Seoul, Korea

May 2025

- Selected as group leader of a six-person interdisciplinary team of business and engineering students
- Facilitated team preparation for company visits and cultural experiences through nightly meetings
- Gained perspective into Korean smart technology companies including Hyundai and TK Elevators

ENGR 0717: Honors Foundations of Engineering Design

Spring 2025

- Programmed an ESP32 microcontroller with a mmWave sensor to build the TableTracker, a device for detecting table occupancy
- Created CAD models for hardware design and system assembly, and presented the final device at the Swanson School of Engineering Design Expo
- Applied human-centered engineering principles across six hands-on design challenges with a three-person team

ENGCOMP 1430: Usability Testing in Technical Writing

Spring 2025

- Conducted user testing interviews and UX diagnostics (SiteImprove) to evaluate and recommend accessibility improvements for the Pitt Mobility site

SKILLS AND INTERESTS

Programming languages: C, C++, MATLAB, Python, and Java

Skills: PCB design, soldering, rapid prototyping, Autodesk Fusion, 3D printing, and woodworking

Interests: Playing guitar, listening to music, discovering new podcasts, taking long walks, catching up with long distance friends