

Harita Trivedi

haritant@seas.upenn.edu | Portfolio: [HaritaTrivedi.com](https://www.haritatrivedi.com) | [Harita's LinkedIn](#)

EDUCATION

University of Pennsylvania, Philadelphia, PA

May 2026 (expected)

Candidate for BSE in Bioengineering with a concentration in Medical Devices

Relevant Coursework: MEAM 5200 (Intro to Robotics), MEAM 5100 (Mechatronics), MEAM 5130 (Feedback Control Design and Analysis), BE 3090 (Modeling, Analysis, and Design Lab), BE 2000 (Intro to Biomechanics), MEAM 1010 (Introduction to Mechanical Design)

SKILLS

Hardware: CAD Design (Solidworks, Onshape), Sensors, Circuits, 3-D Printing, Laser Cutting, Microcontrollers, RC Servo Motors, PID Design

Software: Python, Matlab, Robot Operating System (ROS), RViz, Gazebo, OpenCV, Linux, Java, OCaml, MS Suite

CAREER-RELATED EXPERIENCE

Penn Engineering Entrepreneurship Fellow Program 2025

January 2025 -- Present

- One of 12 Penn students chosen for a year-long program to cultivate leadership and entrepreneurship in high-impact technology ventures

Research Intern – Immune Cell-based Modalities (R&D Team), *Legend Biotech*

June 2024 – August 2024

- Conducted data analysis for cytotoxicity assays to assess immune cell viability.
- Utilized flow cytometry and collaborated with cross-functional teams to troubleshoot protocols
- Streamlined immune therapy development by documenting findings and presenting actionable insights

Co-Lead - Assistive Devices and Prosthetic Technologies (ADAPT)

January 2023 – Present

- Developed a 4-DOF robotic arm to sense and visualize surgical instruments
- Worked on a team to implement a machine-learning algorithm (YOLO11) to detect and label surgical instruments in real-time
- Achieved 90% training accuracy and 66% validation accuracy, enabling efficient and reliable tool identification

Team Member - Tikkun Olam Makers (TOM)

August 2024 – Present

- Fabricated assistive devices for individuals with cerebral palsy
- Created adaptive dice rollers and paintbrush hats to ensure user-friendly system designs
- Delivered functional prototypes improving accessibility and usability for individuals with disabilities

Biobanking Intern - Perelman School of Medicine, University of Pennsylvania

August 2022 - Present

The Product Development Laboratory (PDL) in the Center for Cellular Immunotherapies (CCI)

- Formulated and cryopreserved patient samples, including CAR T cells
- Characterized the critical quality attributes of cell therapy products via cell counting viability assessment, multi-color flow cytometry, and functional testing
- Assisted with inventory management, data entry activities, following and writing SOPs, recruiting new biobanking interns, etc.

Math Teacher's Assistant (TA) – Department of Mathematics, University of Pennsylvania

August 2023 – December 2023

- Created a community where students can learn math by holding recitations and office hours based on their needs, as well as being available outside of these times to respond to questions through email/online forums
- Promptly graded quizzes/homework to give students proper feedback to understand their strengths/weaknesses and support students who may be struggling
- Communicated with other TAs and professors to proctor the quizzes and review material

TECHNICAL PROJECTS

Pick-And-Place Robotic System – Team of 4

- Developed a 7 DOF Franka Emika Panda arm solution for static and dynamic block stacking using path planning and motion control
- Implemented gradient-based inverse kinematics and forward kinematics for pose estimation with ROS and Gazebo
- Achieved 100% accuracy for static blocks and 82.75% for dynamic blocks, averaging 5.23 seconds per pickup

Human-Cockroach-Machine Interface (HCMI) – Biomechatronic Design Challenge -- Team of 4

- Developed a biomechatronic system integrating EMG signals for real-time control of a cockroach leg and servo motor
- Implemented signal processing and calibration in MATLAB; designed mechanical components using CAD
- Achieved precise control with significant statistical validation ($p = 0.0461$) and optimized servo response

LEADERSHIP

Social Chair – Hindu Jain Association

January 2023 – Present

- Planned social events for people in the club as well as open events to show the vibrant nature of culture to all Penn students

Community Development Co-Director - The Society of Women Engineers (SWE)

January 2025 – Present

- Organized monthly meetings, social events, and wellness initiatives for SWE members
- Secured funding, managed event logistics, and maintained the SWE calendar
- Led recruitment efforts and collaborated with academic contacts and club leaders

LANGUAGES

English (Native), Spanish (Intermediate), Gujarati (Native), Hindi (Intermediate)