

Reilly Desai

ROBOTICS ENGINEERING STUDENT AT WORCESTER POLYTECHNIC INSTITUTE

Worcester, Massachusetts, United States

Expected Graduation: May 2026 · GPA: 4.0 · Major: Robotics Engineering · Minor: Data Science

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RELEVANT EXPERIENCE

SOFT ROBOTIC RESEARCH INTERN (NSF IRES PROGRAM)

June 2024 - July 2024

Oldenburg, Lower Saxony, Germany

- Developed a novel soft robotic armchair using pneumatic inflatable fabric actuators with the intent to explore applications as one of the first testers of the Wild Pneumatics toolkit
- Worked under Dr. Marion Koelle, head of the Personal Pervasive Computing Group at OFFIS – Institute for Information Technology, whose primary focus is HCI research
- Funded by the National Science Foundation's International Research Experiences for Students (IRES) program, hosted by University of New Hampshire and the University of Oldenburg

TECHNICAL MANAGER (WPI, DEPT. OF HUMANITIES AND ARTS, DIVISION OF DRAMA/THEATER)

August 2023 - Present

Worcester, Massachusetts, United States

- Member of Squad, a dedicated team within WPI's Theater Department composed of student workers
- Primary focus on various aspects of theater technology and production support
- Maintain regular office hours in the school's woodshop, where I am able to provide valuable assistance and oversee the safe and effective use of tools by fellow students

STUDENT DEVELOPER (WPI)

August 2023 - March 2024 (8 months)

Worcester, Massachusetts, United States

- Worked in partnership with Schneider Electric to develop an AR application which streams real-time data from a Remote Data Logger (RDL) device to aid maintenance workers
- Deployment Lead, with additional focus on the camera and documentation

HUMAN-COMPUTER INTERACTION RESEARCHER (WPI, EREE)

May 2023 - August 2023 (10 weeks)

Worcester, Massachusetts, United States

- Conducted grant-funded research on touch-sensitive fabrics and their augmented reality (AR) applications
- Analyzed user interactions and gestures to inform future developments, with intent to publish
- Retooled a memory quilt AR app for a pilot study

FOUNDER & CAPTAIN OF FTC 17009 STEEL MAGNOLIAS

August 2019 - April 2022 (2 years, 9 months)

Riverdale, New Jersey, United States

- Captain and founder of FIRST Tech Challenge 17009 Steel Magnolias, a high school robotics team sponsored by Girl Scouts of Northern New Jersey
- Won the 2020 Promote Award at the Worlds level, and consistently won programming and teamwork awards at the lower levels for our advanced code and focus on communication and collaboration with competing teams
- Gained experience in autonomous camera recognition, team management, technical documentation, Java programming, CAD, and mechanical design

SKILLS & PROFICIENCIES

TECHNICAL

Languages, Libraries, & Frameworks

- Python / ROS / C++ / C / Java / MATLAB
- Flask / CSS / HTML for Web Dev
- Vuforia / Tensorflow

Engineering Design & Prototyping

- Solidworks / Fusion360 / Onshape
- 3D-Printing
- Laser Cutting / Wood Shop Trained
- Comfortable with Microcontrollers
- Inkscape / Adobe Illustrator

OS & Development Environments

- Linux / Ubuntu
- VS Code
- PlatformIO
- JetBrains / Android Studio
- Unity for HoloLens

OTHER

Administrative Skills

- Documentation
- Technical / Academic Writing
- Microsoft Office / Excel
- Google Workspace
- Slack / Discord / Trello

Soft Skills

- Problem-Solving
- Communication
- Collaboration & Teaching
- Team Leadership
- Presentation Skills

Other Relevant Skills & Proficiencies

- GitHub
- Graphic Design (Mockups, Posters, Logos, Art, etc.)
- ATLAS.ti
- Agile Development

PUBLICATIONS

R. Desai et al., "The Eagle Hand: Innovations in 3D Printing Prosthetic Hands," 2021 IEEE MIT Undergraduate Research Technology Conference (URTC), Cambridge, MA, USA, 2021, pp. 1-5, doi: 10.1109/URTC54388.2021.9701613.

- Developed a 3D-printed prosthetic hand prototype to create a more affordable, accessible, and adaptable design
- Research Contribution: Introduced a novel modular design which aids in increasing versatility for users, expanding the traditionally very limited use cases and functionalities of 3D-printed prosthetics

VOLUNTEERING

FIRST LEGO LEAGUE MENTOR (GIRL SCOUTS)

August 2018 - December 2021 (3½ years)

Riverdale, New Jersey, United States

- Mentored middle school students competing on four FLL teams during their season for three years
- Worked with students to teach them principles of engineering, programming, documentation, research, public speaking, teamwork, and leadership
- Many of these girls have continued on to successful high school robotics careers, inspired to now pursue college degrees in computer science and engineering fields

EXTRACURRICULARS

THE COLLABLAB (WPI)

August 2022 - Present

Worcester, Massachusetts, United States

- Student-run makerspace on campus, including 4+ 3D printers, a soldering bench, and power tools
- From October 2023 on, served as a lab monitor with weekly lab hours
- From January 2024 on, served as PR Manager, an elected position on the executive board

HONORS AND AWARDS

GOLD AWARD GIRL SCOUT

Issued by Girl Scouts of Northern New Jersey

- The highest honor a Girl Scout can achieve, the Gold Award constitutes a 100+ hour project that serves your community
- Provided STEM resources for local teachers, including 120+ STEM Bins with related curriculum materials