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SETH ROBLES

Cambridge, MA

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Education

Massachusetts Institute of Technology (MIT) — GPA 5.0/5.0   **Expected May 2027**

BS in Mechanical Engineering, Minor in Physics   *Cambridge, MA*

- **Coursework**: Circuits, Signal Processing, Design and Manufacturing I, Intro to Robotics, Dynamics and Controls II
- **Extracurriculars**: MIT Admissions Ambassador, Orientation Leader, Associate Advisor, Tour Guide, Zeta Psi Fraternity, Society of Hispanics Engineers, The Standard (Professional development group for men of color), Student Advisory Group for Engineers

Experience

Accelerated Materials Laboratory for Sustainability   **Sep. 2024 – Present**

Undergraduate Researcher   *Cambridge, MA*

- Utilized KiCAD to create schematics for Archerfish printing system and Simulink to model system behavior
- Optimized chemical pumping component of material printing system in collaboration with graduate advisor
- Conducted diagnostic tests to determine sources of noise and general error affecting system performance

MIT Olsen Lab Research   **Feb. 2024 – Sep. 2024**

Undergraduate Researcher   *Cambridge, MA*

- Designed machine parts around chemistry safety requirements while maintaining mechanical speed and precision required for ideal chemical solutions
- Modeled a functioning cyclone separator in Fusion CAD and set up simulations in Ansys CFD Software to create accurate models for future simulations

Robotics Class Team   **Feb. 2025– Present**

UR5 Robot Lead   *Cambridge, MA*

- Led a team of 7 upper-level undergraduate and graduate students in using a UR5 Robot for pick and place tasks with deformed plastic bottles
- Prototyped potential end effectors in solidworks before 3D printing them for testing
- Used PlatformIO with VSCode for computer vision, allowing for automation of pick and place tasks based on bottle colors

Skills

Languages: Spanish, Italian (Basic), ASL (Basic)
C.S. and Electronics: Python, Java, HTML, CSS, C++, Raspberry Pi, Arduino, ESP32
Modeling Software: Solidworks, Autodesk Fusion CAD, Ansys Fluent Flow CFD Modeling, KiCAD (Beginner)
Machining and Fabrication: Lathe, Mill, CNC Router, Laser cutting, Soldering, 3D Printing

Teaching and Leadership

Physics Instructor   **Jan. 2025**

Instructor   *Pordenone, Italy*

- ∗ Taught fundamental physics (mechanics, heat transfer, electricity, and magnetism) to students through interactive lessons and hands-on demonstrations
- ∗ Designed and implemented engaging problem-solving activities to reinforce key principles
- ∗ Adapted teaching methods to accommodate diverse learning styles in an international setting

MIT Introduction to Technology, Engineering, and Science   **May 2024 – Aug. 2024**

Residential Physics Teaching Assistant   *Cambridge, MA*

- ∗ Implemented a college-level calculus-based physics course by grading, tracking student performance, and leading recitations, office hours, and individual tutoring sessions
- ∗ Mentored and guided a group of 13 students, fostering a supportive, safe, and inclusive residential environment

Awards

Gates Scholar, Jack Kent Cooke Scholar, National Merit Scholar, Questbridge Scholar, Hispanic Scholarship Fund Scholar, Coolidge Senator, National Hispanic Recognition Scholar, Small Town Recognition Scholar, 3x AP Scholar with Distinction

Interests

Reading, Wrestling, Working Out, Sports, Writing, Drawing