

Cambridge, MA
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EDUCATION

Massachusetts Institute of Technology (MIT)

Cambridge, MA

Candidate for Bachelor of Science in Electrical Engineering and Physics

May 2025

- Relevant Coursework: Power Electronics, Signal Processing, Quantum Physics

GPA: 4.8/5.0

SKILLS

Technical: Python, CAD, Arduino, Altium, MATLAB, PCB Design, LTspice, PID Controls, C, Assembly, C++

Language: German (C2), Korean (B1), Spanish (B1), Vietnamese (A2)

RESEARCH EXPERIENCE

MIT Department of Physics

Cambridge, MA

Undergraduate Researcher

January 2024 – Present

- Collect sensor data with ROOT, C++, and Python to support LHC quantum chromodynamics research at CERN.
- Implement Deep Neural Network algorithms to optimize the quality of heavy-ion collision simulations.
- Utilize Keras and Tensorflow in DNN training, validation, and model application to efficiently process info.
- Analyze experimental data of resonance peaks and collision stats to gain insights into trigger events.

Stuttgart University Program for Experiencing Research (SUPER)

Stuttgart, Germany

Research Intern

June 2023 – August 2023

- Modeled a PhD candidate supervisor's power cycling circuit in CAD to be used for device failure analysis.
- Designed and printed fully functional buck converter PCBs in Altium for power cycling tests.
- Operated power supplies & oscilloscopes in a robust power semiconductors lab to perform circuit measurements.
- Worked with precision mechanical machinery to manufacture PCBs, plexiglass layouts, and mount designs.

MIT Department of Architecture

Cambridge, MA

Undergraduate Researcher

February 2022 – May 2022

- Integrated electrification research into a PV power cost analysis of an off-grid educational site in Sierra Leone.
- Simulated climate patterns, illuminance, and thermal comfort as a function of human variables over time.
- Modeled a strategic workflow to increase understanding of PV collection and DC inversion to AC.
- Acted as a branch between MIT Architecture students and the Sierra Leone contractor building the site.

LEADERSHIP

MIT Department of Physics

Cambridge, MA

Undergraduate Teaching Assistant

September 2022 – Present

- Facilitate collaborative environment in sections of 120 students by adjusting to different learning styles.
- Engage in further small group discussions on overlooked class content to establish thorough comprehension.
- Mentor peers in physics undergoing academic challenges using personal experience.
- Administer lab & demo instructions to promote a focus on hands-on physics exploration.

MIT-Germany Global Teaching Labs

Kaufbeuren, Germany

Guest Teacher

January 2024

- Designed lessons and exercises for classes of 20-30 students from grades 7-12 to prepare them for school exams.
- Delivered STEM lessons in technical English to deepen the second language proficiency of German adolescents.
- Adapted to the changing schedules of 8 high school teachers in physics, math, English, informatics, and robotics.
- Incorporated relevant research topics and live demonstrations to spark the interest of girls in STEM.

Camp Kesem at MIT

Cambridge, MA

Volunteer Coordinator

November 2021 – Present

- Spearhead 2 week-long summer camps for 200 campers aged 6-18 impacted by cancer as a unit leader.
- Write and present staff training modules to prepare 130 counselors in childcare, DEI, disability, and identity.
- Network with biotech companies, grant foundations, and alumni to garner speakers & corporate sponsorship.
- Generated \$160,000 in 2023 to fund annual summer camps for children affected by cancer in the family.