Titus Roesler

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Education

Massachusetts Institute of Technology (MIT) — **Cambridge, MA**

- Candidate for S.B. in Electrical Engineering. GPA: 4.8 / 5.0. — Sept. 2021 – present
- Programming: Python — NumPy and SciPy. MATLAB. Julia. — Graduation: June 2025

Signals, Systems, and Inference ∗ Signal Processing ∗ Biomedical Signal and Image Processing ∗ Music Processing ∗ Computational Imaging: Physics and Algorithms ∗ Feedback System Design ∗ Linear Algebra ∗ Differential Equations ∗ Multivariable Calculus ∗ Probability and Random Variables ∗ Intermediate Probability Problem Solving ∗ Physics I: Classical Mechanics ∗ Physics II: Electricity and Magnetism ∗ Electromagnetics, Waves, and Applications ∗ Electrical Circuits: Modeling and Design of Physical Systems ∗ Computer Architecture ∗ Toy Product Design ∗ Strobe Photography Lab ∗ Programming in Python ∗ Programming in C and Assembly

Teaching

Teaching Assistant for Signal Processing — Jan. 2024 – present

- Develop course materials, including problem sets, labs, and quizzes.
- Assist with lectures and recitations. Staff office hours. Lead quiz reviews.
- Maintain course website. Supervise lab assistants. Grade quizzes.

Teaching Assistant for Multivariable Calculus — Sept. 2022 – present

- Hold recitations, office hours, and exam reviews. Webmaster. Head grader. Tutor.

Laboratory Assistant for Signal Processing — Sept. 2023 – Dec. 2023

- Helped students with problem sets and labs during office hours. Led quiz reviews.

Research and Work Experience

Research Assistant, MIT Computational Biophotonics Lab — **Cambridge, MA**

- Research and develop next-generation optical imaging and computational methods. — Jan. 2024 – present
- Enable non-invasive, deep, fast, and high-contrast visualization of biological systems.

REU Student-Scholar, South Dakota State University — **Brookings, SD**

- Researched electric power systems and electricity markets. — May 2023 – Aug. 2023
- Engaged in high-performance computing bootcamps.
- Presented research at the South Dakota EPSCoR symposium in July 2023.

Research Assistant, MIT TedLab — **Cambridge, MA**

- Modeled how prior expectations influence sentence comprehension in noise. — Feb. 2023 – May 2023

Climate Action Intern, Bennett College — **Greensboro, NC**

- Initiated food waste composting program and water quality audit. — May 2022 – Aug. 2022
- Interviewed seven sustainability-focused faculty in North Carolina and Virginia.
- Planned environmental justice and sustainability conference for November 2022.

Extracurriculars at MIT

Associate Academic Advisor	Experimental Study Group	Aug. 2022 – present
Associate Academic Advisor	Electrical Engineering and Computer Science	Jan. 2024 – present
Resident Peer Mentor	Baker House (Dormitory)	Aug. 2023 – present
Member	Undergraduate Student Advisory Group in EECS	Feb. 2024 – present
Program Coordinator	Priscilla King Gray Center for Public Service	Jan. 2024 – present
Program Counselor	Priscilla King Gray Center for Public Service	May 2023 – Aug. 2023
Track Meet Director	MIT Running Club	Jan. 2023 – Apr. 2023
DEI and Outreach Chair	Undergraduate Mathematics Association	May 2022 – Jan. 2023