Elizabeth Polito

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Education

University of California, Berkeley *August 2025 - Present*
Ph.D. Electrical Engineering & Computer Science Berkeley, CA

Cornell University *May 2025*
B.S. Electrical & Computer Engineering Ithaca, NY
- GPA: 4.126/4.300, *Summa Cum Laude*

Research Experience

Cornell University *October 2023 - Present*
Undergraduate Research Assistant, Summer 2024 REU Ithaca, NY
- Designed data compression algorithms for the task of channel simulation, a framework for lossy compression with applications in multimedia compression, ML model compression, and differential privacy by applying the structure of error-correcting codes.

Independent Senior Project
- Developed and analyzed trellis-coded quantization (TCQ) algorithms, proving rate-distortion optimality, with applications to channel simulation and relative entropy coding in machine learning.

Publications

C=Conference, W=Workshop

[C.1] S.M. Sriramu, R. Barsz, **E. Polito**, A.B. Wagner, "Fast Channel Simulation via Error-Correcting Codes," Advances in Neural Information Processing Systems (NeurIPS), 2024.

[W.1] S.M. Sriramu, R. Barsz, **E. Polito**, A.B. Wagner, "Polar Codes for Channel Simulation," Workshop on Machine Learning and Compression at NeurIPS, 2024.

Internship Experience

CACI International *May 2023 - August 2023*
RF Engineering Research & Development Intern Florham Park, NJ
- Designed and fabricated a custom test fixture for a waveform synthesis module to validate system-level signal processing reqirements and hardware functionality.

Teaching Experience

Cornell University *January 2024 - May 2025*
Undergraduate Teaching Assistant Ithaca, NY
- ECE 4670/5670: Digital Communication System Design
- ECE 3250: Signals & Systems Analysis
- ECE 3150: Microelectronics

Girls Who Code *May 2022 - August 2022*
Summer Immersion Program Teaching Assistant Remote

Honors and Awards

Berkeley Fellowship, *UC Berkeley* *August 2025*
Merrill Presidential Scholar, *Cornell University* *May 2025*
Sibley Prize, *School of ECE, Cornell University* *May 2025*
Undergraduate Research Award Honorable Mention, *Computing Research Association* *December 2024*
Eta Kappa Nu Inductee, *School of ECE, Cornell University* *December 2024*

Leadership and Volunteering

Co-President, *Cornell IEEE Student Branch* *January 2024 - December 2024*
Engineering Peer Advisor, *College of Engineering, Cornell University* *August 2022 - January 2024*