

Elizabeth Polito

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EDUCATION

University of California, Berkeley Ph.D. Electrical Engineering & Computer Science	<i>August 2025 - Present</i> Berkeley, CA
Cornell University B.S. Electrical & Computer Engineering ◦ GPA: 4.126/4.300, Summa Cum Laude	<i>August 2021 - May 2025</i> Ithaca, NY

RESEARCH EXPERIENCE

Cornell University Undergraduate Research Assistant ◦ Designed data compression algorithms that use the structure of error-correcting codes for the task of channel simulation , a framework for lossy compression with applications in neural compression and differential privacy. ◦ Investigated applications of polar codes to the channel simulation problem by implementing Monte Carlo simulations to experimentally validate performance (Python, Numba).	<i>October 2023 - Present</i> Ithaca, NY
Independent Senior Project ◦ Developed and analyzed fractional-rate trellis-coded quantization (TCQ) algorithms , proving rate-distortion optimality, with applications to channel simulation and relative entropy coding.	

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 RF Engineering Research & Development Intern ◦ Designed and fabricated a custom test fixture for a waveform synthesis module to validate system-level signal processing requirements and hardware functionality.	<i>May 2023 - August 2023</i> Florham Park, NJ
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TEACHING EXPERIENCE

Cornell University Undergraduate Teaching Assistant ◦ ECE 4670/5670: Digital Communication System Design ◦ ECE 3250: Signals & Systems Analysis ◦ ECE 3150: Microelectronics	<i>January 2024 - May 2025</i> Ithaca, NY
Girls Who Code Summer Immersion Program Teaching Assistant	<i>May 2022 - August 2022</i> Remote

HONORS AND AWARDS

Berkeley Fellowship , UC Berkeley	<i>August 2025</i>
Merrill Presidential Scholar , Cornell University ◦ Top 1% of university-wide class, selected for academic achievements and leadership.	<i>May 2025</i>
Sibley Prize , School of ECE, Cornell University ◦ Top 4-year cumulative GPA of ECE graduates.	<i>May 2025</i>
Undergraduate Research Award Honorable Mention , Computing Research Association	<i>December 2024</i>
Eta Kappa Nu Inductee , School of ECE, Cornell University	<i>December 2024</i>

LEADERSHIP AND VOLUNTEERING

Co-President , Cornell IEEE Student Branch	<i>January 2024 - December 2024</i>
Engineering Peer Advisor , College of Engineering, Cornell University	<i>August 2022 - January 2024</i>