

## Eric Lei

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CONTACT INFORMATION	<i>Email:</i> <a href="mailto:elei@seas.upenn.edu">elei@seas.upenn.edu</a> <i>Phone:</i> (978)-263-5958	
RESEARCH INTERESTS	Signal processing, machine learning, communication theory, high-performance computing	
EDUCATION	<b>University of Pennsylvania</b> , Philadelphia, PA Ph.D. in <i>Electrical and Systems Engineering</i> Information and Decision Systems	2020 – Present
	<b>Cornell University</b> , Ithaca, NY B.S. in <i>Electrical and Computer Engineering</i> Minors in <i>Mathematics</i> and <i>Computer Science</i>	2016 – 2020
HONORS AND AWARDS	NSF Graduate Research Fellowship, <i>National Science Foundation</i> Ganster Engineering Fellowship, <i>University of Pennsylvania</i> The Dean’s Fellowship, <i>University of Pennsylvania</i> Sigma Xi (nominated) Tau Beta Pi Eta Kappa Nu	2020 2020 2020 2020 2019 2018
RESEARCH EXPERIENCE	<b>VLSI Information Processing Group</b> , Ithaca, NY <i>Undergraduate Researcher, Prof. Christoph Studer</i> <ul style="list-style-type: none"><li>• Positioning and localization in multi-antenna wireless systems</li><li>• Developed parametric dimensionality reduction and metric learning methods via Siamese neural networks to obtain location information from channel-state-information</li></ul> <b>Computer Systems Laboratory</b> , Ithaca, NY <i>Undergraduate Researcher, Prof. Zhiru Zhang</i> <ul style="list-style-type: none"><li>• Developed FPGA-accelerated implementations of cryptographic hash functions such as SHA and AES using high-level synthesis</li></ul>	Feb 2018 – Present  Jun. 2017 – Aug. 2017
INDUSTRY EXPERIENCE	<b>Systems &amp; Technology Research</b> , Woburn, MA <i>Research Intern, Cyber Physical Systems</i> <ul style="list-style-type: none"><li>• Algorithms for frequent subgraph mining and isomorphism applications</li></ul> <b>MIT Lincoln Laboratory</b> , Lexington, MA <i>Summer Research Intern, Group 99 (Integrated Systems and Concepts)</i> <ul style="list-style-type: none"><li>• Information theory and control systems design for free-space laser communication systems</li></ul> <b>MIT Lincoln Laboratory</b> , Lexington, MA <i>Summer Research Intern, Group 99 (Integrated Systems and Concepts)</i> <ul style="list-style-type: none"><li>• Read-out integrated circuits for imaging sensors. Performed RTL design and verification with synthesis/implementation on a Xilinx Ultrascale FPGA.</li></ul>	Jun 2020 – Present  May 2019 – Aug 2019  Jun. 2018 – Aug 2018
PUBLICATIONS AND PRESENTATIONS	<b>E. Lei</b> , O. Castañeda, O. Tirkkonen, T. Goldstein, and C. Studer, “Siamese Neural Networks for Wireless Positioning and Channel Charting,” <i>2019 57th Annual Allerton Conference on Communication, Control, and Computing (Allerton)</i> , Monticello, IL, 2019, pp. 200-207.	

E. Lei, O. Castañeda, and C. Studer, “Wireless Positioning via Twin Networks,” poster presentation at *Cornell Undergraduate Research Board Symposium*, Ithaca, NY, USA, Spring 2019.

TEACHING	Teaching Assistant, Intro to Probability and Inference (ECE 3100)	Spring 2020
	Teaching Assistant, Machine Learning for Intelligent Systems (CS 4780)	Fall 2019
	Teaching Assistant, Digital Logic and Computer Organization (ECE 2300)	Fall 2018
	Teaching Assistant, The Comp. Tech. Inside Your Smartphone (ECE 1210)	Spring 2018, 2019
CAMPUS INVOLVEMENT AND OUTREACH	<p><b>Expanding Your Horizons</b>, Ithaca, NY <i>Volunteer</i></p> <ul style="list-style-type: none"> <li>Helped under-represented minorities in high school learn about circuits in an educational workshop</li> </ul> <p><b>Eta Kappa Nu</b>, Ithaca, NY <i>Member</i></p> <ul style="list-style-type: none"> <li>Led exam review sessions for freshman and sophomore level ECE classes</li> </ul> <p><b>IEEE Cornell Student Branch</b>, Ithaca, NY <i>Corporate Chair</i></p> <ul style="list-style-type: none"> <li>Hosted information sessions for companies doing recruiting, professor talks for the student body</li> </ul> <p><b>Cornell University Engineering Success</b>, Ithaca, NY <i>Tutor</i></p> <ul style="list-style-type: none"> <li>Tutor for students in Discrete Structures (CS 2800)</li> </ul> <p><b>Cornell Cup Robotics</b>, Ithaca, NY <i>Electrical Subteam Member</i></p> <ul style="list-style-type: none"> <li>Worked on electronic hardware and software for semi-autonomous R2-D2 robot</li> </ul>	<p>April 2019</p> <p>Oct. 2018 – Present</p> <p>Sep. 2018 – Feb. 2019</p> <p>Jan. 2018 – Dec. 2018</p> <p>Jan. 2017 – Feb. 2018</p>
TECHNICAL SKILLS	<p><b>Computer Languages:</b> C, C++, MATLAB, Python, Java, Verilog, R, PyMTL</p> <p><b>Libraries/Packages:</b> NumPy, SciPy, Tensorflow, Keras, Scikit Learn, OpenMP, CVXPY, PyBind, Rcpp</p> <p><b>Tools:</b> Git, Xilinx Vivado, Cadence Innovus</p>	