

Eric Lybrand

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Education

University of California, San Diego

Ph.D. in Mathematics (expected December 2019)

San Diego, CA

2015–Present

Relevant Coursework: Numerical Optimization, Advanced Data Structures, Applied Statistics, Numerical Linear Algebra and Nonlinear Equations, Real Analysis, Functional Analysis

University of Georgia

B.Sc. in Mathematics (Summa Cum Laude)

Athens, GA

2011–2015

Previous Employment

Brex

Data Science Intern

San Francisco, CA

Summer 2019

- Engineered first generation of machine learning infrastructure for fraud model from scratch.
- Built and productionized Brex's first ever transaction level fraud detection model.

IPAM & NEC Corporation

Graduate Student Researcher

Sendai, Japan

Summer 2018

- Worked for the telecommunications corporation NEC on a project that focused on [indoor localization using wireless networks](#).
- Led a team of 6 Japanese and American researchers in designing a new path loss model for indoor localization using wireless received signal strength - resulted in improved localization error by 1m in several cases.

University of California, San Diego

Academic Student Employee

San Diego, CA

October 2015–Present

Senior Teaching Assistant

2017-2019

- Restructured department TA training with Graduate Vice Chair and senior faculty.
- First Senior TA to serve for two consecutive years.
- Taught Integral Calculus, Differential Calculus, Honors Multivariable Mathematics with Manifolds, Linear Algebra, Vector Calculus. See my evaluations [here](#).

CURE Graduate Research Assistant

Summer 2017

- Mentored 6 UCSD undergraduates from under-represented backgrounds on a NSF funded project.

Publications

- [1] M. Iwen, E. Lybrand, A. Nelson, and R. Saab. [New Algorithms and Improved Guarantees for One-Bit Compressed Sensing on Manifolds](#). *Sampling Theory and Applications*, 2019.
- [2] E. Lybrand and R. Saab. [Quantization for Low-Rank Matrix Recovery](#). *Information and Inference*, 2018.

Selected Talks

[One-Bit Compressed Sensing on Manifolds](#) TRIPODS Summer Conference - Tucson, Arizona

May 2019

[Quantization for Low Rank Matrix Recovery](#) BIRS - Banff, Alberta, Canada

October 2018

Compressed Sensing and Blind Deconvolution. IPAM GRIPS - Sendai, Japan

June 2018

Awards and Honors

Oceanids Memorial Fellowship

2019

UCSD Math Department Annual TA Award

2018

Ranked 2nd in Real Analysis PhD Qualifying Exam (out of 30 students)

2016

James B. Ax Graduate Fellowship

2015-2016

Presidential Scholar (perfect GPA for whole academic year)

2014-2015

Eagle Scout

2008

Technical Skills

Programming Languages: Python, SQL, MATLAB, Mathematica, R, C++, C

Tools/Packages: pandas, numpy, scikit-learn, TensorFlow, Keras, Git, Docker, Airflow, S3