

Joshua Vendrow

EDUCATION

MIT – PhD Candidate in EECS

Advised by Aleksander Mądry | Expected May 2027

UCLA – B.S. Computer Science and Applied Mathematics

3.95 GPA | Minor in Philosophy | Expected June 2022

EXPERIENCE

Apple — ML Engineering Intern

January 2022 - Present | Cupertino, CA

- Researched and developed deep learning models for core vision technologies within the SIML (Systems Intelligence Machine Learning) computer vision team.

Apple — Data Science Intern

June 2021 - September 2021 | Cupertino, CA

- Developed deep learning and computer vision models within Security team.
- Set up data pipeline, training, and evaluation using CoreFlow and Turi.
- Deployed CoreML model into IOS software to run demo on the newest iPhone.

UCLA Applied Math — Research Assistant

AUGUST 2019 - PRESENT | Los Angeles, CA

- Designed and implemented ML models, created and ran experiments, and wrote research papers, leading to publications in top conferences (IEEE ICASSP, ACSSC)
- Collaborated with professors, postdocs, and PhDs to complete projects in computer vision, network science, deep learning, and optimization.

Harvey Mudd, Department of Math — Research Intern

AUGUST 2021 - PRESENT | Los Angeles, CA

- Led and organized multiple data science projects under Harvey Mudd faculty.
- Trained other students in research fundamentals, Pytorch, Linux.

OPEN SOURCE SOFTWARE PROJECTS

Fast Nonnegative Least Squares [[PyPi](#)] [[Github](#)]

- Implemented the FNNLS algorithm, Set up CI/CD workflow using Travis CI.
- Wrote a program to demonstrate improvements over the popular SciPy package in execution time for random matrices.

Network Dictionary Learning [[PyPi](#)] [[Github](#)] [[arXiv](#)]

- Develop a method for learning structures from large-scale graph data.
- Outperformed state of the art graph neural network models in link prediction.

SELECTED PUBLICATIONS (full list at [joshvendrow.com](#))

[1] E. Vendrow, J. Vendrow, "Realistic Face Reconstruction from Deep Embeddings." NeurIPS PriML, 2021. [[Github](#)]

[2] J. Vendrow, J. Haddock, E. Rebrova, D. Needell. "On a Guided Nonnegative Matrix Factorization." IEEE ICASSP, 2021. [[IEEE](#)] [[arXiv](#)] [[Github](#)]

[3] J. Vendrow, J. Haddock, D. Needell. "Neural Nonnegative CP Decomposition for Hierarchical Tensor Analysis." Asilomar Conf. on Sig. Sys. and Comp, 2021.

CONTACT

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🌐 joshvendrow.com

🐙 github.com/jvendrow

SKILLS

Python, Java, C/C++
Javascript, CSS, HTML

Git, Unix/Linux, Turi Create

TensorFlow, PyTorch,
scikit-learn, NumPy, SciPy,
Cirq, Qiskit

Data Visualization,
Multithreading, CI/CD

SELECTED COURSEWORK

Graduate

Quantum Programming
Reinforcement Learning
Neural Nets / Deep Learning
ML for Bioinformatics
Convex Optimization
Linear Programming

Undergraduate – CS

Operating Systems
Applied Numerical Computing
Machine Learning
Algorithms and Complexity
Formal Languages / Automata

Undergraduate – Math

Stochastic Processes
Probability Theory
Discrete Math
Real Analysis
Linear Algebra

CLASS PROJECTS

CS 239: Implementing
Quantum Algorithms and
Running on Google and IBM
Quantum Computers [[Report](#)]

EE 239AS: Applying Proximal
Policy Optimization to OpenAI
Environments
[[Report](#)] [[Github](#)]