

# William Lin

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## EDUCATION

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### University of California, Berkeley

#### Electrical Engineering and Computer Science M.S.

May. 2024

*Advised by Professor Satish Rao with a concentration in Algorithms*

#### Electrical Engineering and Computer Science B.S with Mathematics minor

May. 2023

*Regents & Chancellor's Scholarship, Eta Kappa Nu, Graduated with High Honors*

GPA: 3.95, Technical GPA: 4.00

## WORK EXPERIENCE

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### EECS Department Course Staff

Jun. 2020 - Dec. 2022

*CS70 Undergraduate Student Instructor (Jan. 2021 - Dec. 2021), CS70 Reader (Jun. 2020 - Dec. 2020)*

*CS172 Reader (Jan. 2022 - May. 2022), CS176 Reader (Aug. 2022 - Dec. 2022)*

- Teaching discussions sessions of up to 30 students twice a week on discrete math and probability
- Holding office hours to assist students with a deeper understanding of course material

### Stottler Henke Associates Inc

Jun. 2022 - Aug. 2022

*Artificial Intelligence Developer Intern*

- Main designer of a framework for applying artificial intelligence techniques to coordinate swarms of drones, and built example systems for simulating them.
- Worked on modernizing Satellite Scheduling System and making it available in Linux for containerization and cloud deployment

### Research

Sep. 2021 - Present

*Graduated Studies Advised by Professor Satish Rao*

- Currently working with Professor Satish Rao on analysis of the capacity releasing diffusion algorithm for local cut conductance. Previous research worked on efficient algorithms for global cut conductance related to expander decomposition.

## SELECTED PROJECTS

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### End-to-End Encrypted File Sharing System (Golang)

Nov 2020

- Designed file sharing system supporting uploading, appending, sharing, and deleting files
- Implemented encryption system for file/user data using AES-CBC, and RSA, as well as error/modification detection to files using HMACs

### Optimality for Sum of Squares Semidefinite Programming

Dec 2022

- Research Survey Paper introducing Sum of Squares semidefinite programs and their applications and implications for approximation algorithm optimality.

### Reinforcement Learning for Image Generation

Sept 2023

- Reinforcement learning project focusing on applying denoising through diffusion models to force image generated to better match prompt

### Methods of Bayesian Inverse Reinforcement Learning

Dec 2023

- Research Survey Paper analysis of three prominent Bayesian Inverse Reinforcement Learning algorithms with experimental results for comparison

## SKILLS

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**Languages:** Java, Python, C, Assembly (RISC V), HTML, CSS, Scheme, MATLAB, Golang, Docker

**Research Interests:** Algorithms, Sum of Squares Programming, Optimization, Machine Learning