

# MARK XU

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## EDUCATION

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### California Institute of Technology

Expected 2022

Bachelors of Mathematics

GPA: 3.9

## EXPERIENCE

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### Board of Directors

March 2020 - Present

Helpful; [helpfulengineering.org](https://helpfulengineering.org)

*Sylvania, OH*

- Took two quarters off school to help create Helpful, a non-profit entity that incubates open-source solutions for COVID-19 and other global challenges.

### Machine Learning Intern

June 2020 - Aug 2020

Pure Storage

*Mountain View, CA (Remote)*

- Prototyped latency anomaly detection methods, laying groundwork for development of a new fleet-management feature.
- Developed novel methods for time-series data analysis and decomposition.

### Software Engineering Intern

June 2019 - Sept 2019

Pure Storage

*Mountain View, CA*

- Uncovered performance issues in VASA integration by developing VM boot storm simulation microbenchmark.
- Improved engineer productivity by halving expected runtime of multiple benchmarks and deploying test validation infrastructure.
- Stabilized internal log processing tools by resolving long-standing deployment issues.

### Research Fellow

June 2018 - Sept 2018

California Institute of Technology

*Pasadena, CA*

- Determined plausible alternate paths for interhemisphere information transfer using causal inference techniques.

## SKILLS

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### Technical Skills

Python (numpy, scipy, scikit-learn, pandas, pytorch, etc.), C++, C, Java

### Coursework

Algebra, Algorithms, Analysis, Computability Theory, Information Theory,  
Machine Learning, Model Theory, Set Theory, Topology

## EXTRACURRICULAR ACTIVITIES

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### President

Jan 2020 - Present

Caltech Effective Altruism

*Pasadena, CA*

- A local group of the effective altruism movement focused on helping students pursue high impact careers.

### Copresident

Sept 2019 - Present

Caltech Mathematics Club

*Pasadena, CA*

- Organize math talks given by undergraduates for undergraduates.