

# Albert Zhang

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## EDUCATION

### UC BERKELEY

BA IN MATH & CS

Expected 2022

TECHNICAL GPA: 4.00/4.00

Non-Technical GPA: 3.97/4.00

### HARVARD EXTENSION

2016-2017

Concurrent Enrollment

### LEXINGTON HIGH SCHOOL

2014-2018

GPA: 3.97/4.30

## COURSEWORK

### Mathematics

- Topology & Analysis \*
- Probability Theory \*
- Honors Linear Algebra
- Honors Abstract Algebra
- Real Analysis
- Discrete Math

### Computer Science

- Combinatorial Algorithms \*
- Machine Learning
- Probability & Random Processes
- Artificial Intelligence
- Optimization
- Data Structures

(\* indicates graduate coursework)

## PROGRAMMING

### Fairly Fluent:

Python • C++ • Java •  $\text{\LaTeX}$  • HTML/CSS • Matlab • Git

### Exposure to:

Javascript • C# • Linux

## PROJECTS

### MADS Library

A Math, Algorithms, & Data Structures static library in C++. Contains things like matrix algebra, graph algorithms, gaussian integers, and more (ongoing project).

C++

### 2048 RL

Applied Q-Learning and Feature-Based Learning techniques to efficiently solve the classic puzzle of 2048.

Python, NumPy

### MusicGen

Utilized markov chains to model melodies from a variety of classical and contemporary composers. Was able to generate non-ear-jarring music.

Python

## AWARDS

2 Time USA(J)MO Qualifier (USAJMO Honorable Mention)

5 Time AIME Qualifier

PUMaC Individual Finalist (7th Geometry, 17th Combinatorics)

CMIMC Geometry Honorable Mention

## RESEARCH

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### **MIT PRIMES | MATHEMATICS RESEARCH PROGRAM**

2016 | Cambridge, MA

Explored the methodologies of Enumerative Combinatorics with a fellow student under the guidance of a graduate mentor. Followed Richard Stanley's Enumerative Combinatorics Vol. I and II. Presented at the MIT PRIMES annual conference and co-authored a paper.