

# Ishaan Patkar

ishaanpatkar@gmail.com

ishaan-patkar.github.io

I am a second-year undergraduate student at the University of California, Berkeley. Currently studying toward a B.A. in Mathematics. I am also a U.S. citizen.

## Education

- UC Berkeley, Mathematics B.A. (2021 - Present)
- Henry M. Gunn High School (2017 - 2021). Weighted GPA 4.37.

## Coursework

### UC Berkeley (2021 - Present)

#### Spring 2023 (In Progress)

- Commutative Algebra (Math 250B). Graduate course.
- Introduction to Topology and Analysis (Math 202B). Graduate course.
- Honors Introduction to Complex Analysis (Math H185). Honors upper division course.

#### Fall 2022

- Groups, Rings, and Fields (Math 250A). Graduate course, received A.
- Introduction to Topology and Analysis (Math 202A). Graduate course, received A-.
- Honors Linear Algebra (Math H110). Honors upper division course, received A+.

#### Spring 2022

- Honors Introduction to Abstract Algebra (Math H113). Honors upper division course, received A+.
- Introduction to Real Analysis (Math 104). Upper division course, received A+.
- Honors Multivariable Calculus (Math H53). Honors lower division course, received A+.

#### Spring 2022

- Honors Linear Algebra and Differential Equations (Math H54). Honors lower division course, received A+.
- Discrete Mathematics (Math 55). Lower division course, received A+.

## High School (2017-2021)

In high school, I took several courses at Euler Circle, a mathematics institute run by Simon Rubinstein-Salzedo which offers college-level classes to high school students. These courses were all ungraded.

#### Summer 2021

- Combinatorics, at Euler Circle. Equivalent to a college upper division course.

#### Fall 2020

- Markov Chains, at Euler Circle. Equivalent to a college upper division course.

### **Summer 2020**

- Ross Mathematics Program, on number theory.

### **Spring 2020**

- Abstract Algebra, at Euler Circle. Equivalent to a college upper division course.

### **Winter 2020**

- Transition to Proofs: Combinatorics, at Euler Circle. Equivalent to a college lower division course.

### **Fall 2020**

- Transition to Proofs: Number Theory, at Euler Circle. Equivalent to a college lower division course.

## **Expository Papers**

I have written several expository papers for various math classes. Copies of these papers are hosted at my website, linked above.

- “An Introduction to the Metric Topology of  $\mathbb{R}^n$ .” For Honors Multivariable Calculus (Math H53) at UC Berkeley. 2022.
- “An Introduction to Probability Theory.” For Honors Multivariable Calculus (Math H53) at UC Berkeley. 2022.
- “Limit Rules in  $\mathbb{R}^n$ .” For Honors Multivariable Calculus (Math H53) at UC Berkeley. 2022.
- “Catalan Numbers.” For Combinatorics at Euler Circle. 2021.
- “An Axiomatic Introduction to Formal Probability Theory.” For Markov Chains at Euler Circle. 2020.
- “Free Groups and Presentations.” For Abstract Algebra at Euler Circle. 2020.
- “Random Number Generators.” For precalculus at Henry M. Gunn High School. 2020. With Tong Miao.

## **Examinations and Awards**

- Scored top 500 in the William Lowell Putnam Mathematical Competition held in 2021.
- Qualified for American Invitational Mathematics Examination in 2019, 2020, 2021.
- National Merit Scholarship Semifinalist.
- Self-studied for the AP BC Calculus examination in 2020; scored 5.
- Self-studied for the AP Computer Science A examination in 2018; scored 5.