#### Ishaan Sinha

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#### **Education**

Harvard University Cambridge, MA

Bachelor of Arts, Mathematics and Computer Science

May 2028

Relevant Coursework: Studies in Algebra and Group Theory (Math 55), Theoretical Computer Science (CS 1210), Probability (Stat 110), Data Structures and Algorithms (CS 1240), Biological and Artificial Intelligence (Neuro 140) Activities: Harvard Undergrad Machine Intelligence Club, Harvard Data Analytics Group, Tech for Social Good, Harvard Undergrad Math Association(Board), Harvard Dharma(Board), Directed Reading Program(Additive Combinatorics)

Princeton University Princeton, NJ

Mathematics Dual Enrollment

September 2022 - May 2024

Coursework: Single Variable Analysis, Multivariable Analysis, Honors Linear Algebra, Topology, Fourier Series, Integration Theory and Hilbert Spaces

# **South Brunswick High School**

South Brunswick, NJ

High School Diploma, Valedictorian (Rank 1/750)

June 2024

NJ Math Olympiad State Champion, 5x American Invitational Mathematics Examination, Stanford University Math Camp, NJ Governor's School of the Sciences, World Science Scholar(50 people from 20 countries)

## **Experience**

# Computational Science and Engineering Lab at Harvard Machine Learning Researcher

Cambridge, MA

October 2024 -

Current

Developing methods for guiding generative video models to learn physical dynamics for fluid flow. Utilizing numerical and high-performance computing methods for complex nonlinear differential equations. Advised by Professor Koumoutsakos.

## Kreiman Lab at Harvard Medical School and Boston Children's Hospital

Boston, MA

## **Machine Learning Researcher**

October 2024 - Current

Utilizing biological data to identify differences in visual search mechanisms used by deep vision models and biological vision models. Improving AI architectures by increasing biological plausibility. Advised by Professor Kreiman.

## Scientific Artificial Intelligence Lab at Stevens Institute of Technology

Remote

## **Scientific Machine Learning Researcher**

September 2022 - May 2024

Developed forecasting pipeline by implementing ensemble of ODE and Transformer models. Led team of 3 for the CDC Disease Modeling Challenge. Selected as Regeneron Science Scholar. Won \$4000 for paper on West Nile Virus dynamics.

#### Leadership

# **South Brunswick High School Robotics Club**

South Brunswick, NJ

President

September 2020 - May 2024

Headed 6 VEX Robotics teams of 79 students. Managed parts for all teams, coordinated scrimmages, conducted tryouts. Spent two years as a member, one year as vice captain, and final year as president.

#### **Projects**

**ColorChess:** Developed a dynamic web application for a unique color chess variant using Next.js, Tailwind CSS, and Shadcn UI components: engaging, fast, and responsive user interface.

#### **Skills & Interests**

**Programming:** Python, Lua, OCaml, Pytorch, C++, Java, Pandas, Rust, Statsmodels, Sklearn, Numpy, Julia, HTML/CSS/JS, Typescript, React, NextJS, Android Studio

Hobbies: Chess(rated 2200, top 99.6%, on chess.com), Tennis, Poker, Cricket