

# Krutharth Vaddiyar

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08536  
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## EDUCATION

### **Princeton University**

- Major: Mathematics; Minors: Statistics & ML, Computational Biology
- Relevant Coursework: Algebra I, Programming Systems, Probability and Stochastic Systems, Integration Theory and Hilbert Spaces

Princeton, NJ  
*Class of 2029*

### **West Windsor-Plainsboro High School North**

- Princeton University Dual Enrollment: Real Analysis, Honors Linear Algebra

Plainsboro, NJ  
*Class of 2025*

## EXPERIENCE

### **Vertaix Lab @ Princeton**

*Machine Learning Researcher*

2025-present

- Mentored by Prof. Adji Bousso Dieng
- Developed and trained alternators, a novel family of non-Markovian models, to predict amino acid sequences from structural protein embeddings
- Applied the Vendi score to use statistical diversity to parse noisy data and identify events from LIGO, VIRGO, KAGRA gravitational wave data
- Applied graph-theoretical entropy to reveal patterns in neuronal activation data

### **Alimtas Bio-Ventures**

*Investor Relations Team Member*

2025-present

- Collaborated with the Myhrvold Lab at Princeton to pitch cutting edge viral RNA antigen-detection technology powered by CRISPR-Cas13 to investors
- Pitched technology investors from companies such as Arch Ventures, Gladstone, Trinity Life Sciences

### **Science Olympiad**

*Captain*

2018-2025

- Managed examination content at invitational competitions for 1000+ participants
- Organized school team tryouts, managed a 30-member team to qualify for the National Tournament in 2024

### **STEM Olympiad Summer Camp**

*Lead Instructor*

2021-2023

- Implemented a comprehensive olympiad-level curriculum in biology, managing a team of co-instructors
- Organized and engaged students in camp-wide co-curricular activities

## HONORS AND AWARDS

### **USA Biology Olympiad**

*2-time Finals Qualifier*

2023, 2024

- Top 10 participants out of 10,000 participants nationwide

### **Science Olympiad**

*National Medalist*

2023, 2024

- National Tournament: 2<sup>nd</sup> in Anatomy (2023), 3<sup>rd</sup> in Anatomy (2024), 4<sup>th</sup> Cell Biology (2024)

### **American Invitational Mathematics Examination**

*3-time AIME Qualifier*

2023-2025

- Top 2.5% of participants on the American Mathematics Competition out of 300,000 participants

## SKILLS

*Programming:* Proficient in Python (including PyTorch, TensorFlow), C++, Java, ARM64 Assembly

*Language:* Fluent in English, Telugu, Conversational in German