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# Rohan Ramkumar

Student: The Harker School (Class of 2025)

## ADVANCED CURRICULUM COMPLETED

- AP Computer Science with Data Structures
- Honors Advanced Topics: Compilers and Interpreters
- Honors Advanced Topics: Neural Networks
- AP Physics Mechanics
- AP Physics Electricity and Magnetism
- AP Calculus BC
- Honors Multivariable Calculus
- Honors Differential Equations I
- Honors Advanced Topics: Signals and Systems
- Honors Advanced Topics: Differential Equations II

## ACTIVITIES

### MIT Beaver Works Summer Institute – Quantum Software

Summer 2024 | Grade 11

- Studied college-level Quantum Computing and Software under MIT Lincoln Laboratory
- Worked on implementing real quantum algorithms through codes

### Analytic Number Theory

Spring 2024 | Grade 11

- Completed the advanced university-level Analytic Number Theory class at Euler Circle, Palo Alto
- Wrote a 10-page research paper about Artin's Conjecture:  
[https://github.com/RohanRPiano/Resume/blob/main/Artin\\_Conjecture.pdf](https://github.com/RohanRPiano/Resume/blob/main/Artin_Conjecture.pdf)

### Independent Expository Research

Summer 2023 | Grade 10

- Researched in-depth about Elliptic Curves
- Wrote a 30-page paper and gave a presentation about Torsion Points on Elliptic Curves:  
[https://github.com/RohanRPiano/Resume/blob/main/Torsion\\_Points\\_Paper.pdf](https://github.com/RohanRPiano/Resume/blob/main/Torsion_Points_Paper.pdf)

### AwesomeMath Projective Geometry

Summer 2022 | Grade 9

- Studied college-level affine, inversive, and projective Geometry in the AwesomeMath program

### Piano Excellence

2011 – PRESENT | Grades Preschool-12

- Currently in the San Francisco Conservatory of Music (SFCM) Pre-College program
- Studied advanced repertoire including works of Bach, Beethoven, Chopin, Liszt, Rachmaninoff, and Ligeti
- Attained MTAC Advanced Level (2022) and Panel Honors (2024)

### Taekwondo - 3rd degree Black Belt

2011 – PRESENT | Grades Preschool-12

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In addition to volunteering as an instructor (more details below), I have earned a third-degree Black Belt through over 13 years of discipline and hard work.

### **Violin Excellence**

**2015 – PRESENT | Grades 3-12**

- First Violinist in Harker school Orchestra, in which I have performed in many professional venues, including Carnegie Hall

### **Conductor – *Assistant Conductor in Harker School Orchestra***

**2022 – PRESENT | Grades 10-12**

- Led many weekly rehearsals in school Orchestra, conducting works by Beethoven, Debussy, Dvorak, Schumann, Price, de Falla, and more.
- Conducted in front of the school in Big Assembly Day
- Conducted in public events, such as Graduation, MLK Day Legacy Celebration, and Spring Orchestra Concert

### **Music Creation Club – *Vice President***

**2023 – PRESENT | Grades 11-12**

- Club that focuses on using digital audio workstations (DAWs) to compose original music
- Helped facilitate many club meetings throughout the school year

### **Composer**

**2020 – PRESENT | Grades 8-12**

- Studied composition in the SFCM Pre-college program
- Composed many different styles of music, ranging from film scoring, to chamber music, to choral music
- Compositions have been debuted by professional musicians

### **Abacus-Based Mental Math – *8th degree Black Belt, Grand Champion***

**2014 – PRESENT | Grades 2-12**

Over the last 9 years, I have participated in an abacus-based mental math program under the League for Soroban Education of America, in which I learn how to do addition, subtraction, multiplication, division, and square roots quickly. I currently have an 8-Dan (8th degree black belt) in mental calculations and have also achieved a grand champion title in the school.

## **VOLUNTEER EXPERIENCE**

### **Taekwondo Instructor**

**2018 - PRESENT | Grades 6 - 12**

- Led classes to teach students, ranging from beginners to black belts
- Over 500 hours in total
- Received two Presidential Volunteer Service Gold Medals and a commendation letter from the President

### **Performer in Tri-M National Honor Society**

**2021 - PRESENT | Grades 9 - 12**

- Performed in various centers, including the Cupertino Senior Center and the Mid-Peninsula Widows & Widowers Association
- Over 20 hours

## **ACADEMIC AWARDS & HONORS**

- 4-time National Latin Exam Gold Medalist (7th-10th grades)
  - Awarded a copy of Caesar's Civil War, an award which less than 0.5% of participants received
- Gold Medal in National Latin Etymology Exam (9th grade)
- Various Medals in Mythology, Roman Civilization, and Vocabulary exams (6th-10th grades)
- Achievement Roll in AMC 12 Exam (8th grade)

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- AIME Qualifier (10th grade)

## **ADDITIONAL AWARDS & HONORS**

- Certificate of Merit Advanced Level Convention (Grades 10, 11)
- Certificate of Merit Panel Honors (Grade 11)
- Love of Learning Award, The Harker School (Grades 8-10)