

Your Complete Name: Rishab Parthasarathy

Current Grade Level: Senior

Hobbies: Violin, puzzles (especially language ones), badminton, reading, exploring the Bay

Clubs: Co-founder of Online Physics Olympiad, Programming Club President, Science Bowl Captain/Head Coach, co-founder of Public Health Club, Science Competitions Club President, Orchestra

Contest/Competition Experience or Honors: 3-time US Physics Team (2019, 2021-2022); USAPhO Gold (2019, 2021-2022), Bronze (2018); US IOL Team Red (2022); Regeneron STS Top 40 Finalist (2022); Published First Author in Prestigious Journal on Quantum AI (2021); USAMO Silver (2022), Qualifier (2019-2022); USAJMO Qualifier (2017-2018); USACO Platinum (2020-2022); USNCO High Honors (2020), Honors (2021); USABO Semifinals Top 70 (2021), Semifinalist (2019, 2021-2022); NACLO Invitational (2020-2022); Online Physics Brawl Highest Scoring High School Team (2020); PUPC Silver (2018); CSEF Qualifier (2019, 2022); National Science Bowl Top 16 (2020)

Autobiography:

As a young child, my journey started where I'm sure many of my peers' did as well, with math. I was always drawn to math, its deceptive simplicity capturing my imagination, so in middle school, I joined the Math Club and started to participate in math competitions, realizing that I had a knack for it after I made AIME and joined my school's Mathcounts team.

From my experience in math, I quickly branched out into other subjects, and at the behest of my friends and math teacher, I joined my middle school's Science Bowl training program. At first, the weekly studying requirements seemed like a heavy burden on my shoulders, but slowly, as I skimmed through physics textbooks, I began to recognize the true beauty of physics. Once I realized this, I began to read whatever resources I could find, and I was able to reach our school's Science Bowl team. Even though we were knocked out early in the elimination rounds of the regional competition, my passion for physics was born, captivated by the power of physics to simultaneously communicate infinite ideas, limitless sensations, intricate relationships, and complex processes.

That mission—to gain the ability to eloquently describe the physical phenomena around me in the scientific language of physics—became my drive, and to that vein, in eighth grade, I began to study physics more seriously, enrolling in introductory mechanics and electromagnetism classes. In ninth grade, I was finally introduced to the worlds of thermodynamics and beyond, and armed with that knowledge, I was fortunate enough to reach the US Physics Team for the first time.

The US Physics Team was one of the greatest experiences of my life, and I'll never forget the incredible, passionate people I met and bonded with over puzzles, board games, and more. My drive to learn physics surged higher than it had ever had before, but it came to a screeching halt when the COVID pandemic hit, wiping out physics competitions worldwide.

I felt lost, but realizing I wasn't alone, I rediscovered my love for physics through two new passions. First, I co-founded the Online Physics Olympiad—a platform to celebrate the "Eureka!" moments of high-school science enthusiasts around the world through accessible physics education. By providing online opportunities to participate in our global physics landscape, we've reached more than a thousand students from more than fifty countries, unlocking my desire to continue unveiling the limitlessness of physics.

Outside physics education, I discovered my own love for quantum computing, modeling the interactions between pairs of photons and molecules in order to encode information about our binary world of computation. Quantum computing became a way for me to engineer serendipity in my research, combining the elegance of visual forms with computer vision frameworks in hybrid quantum-optical AI. Through this project, I reacquainted myself with the transcendence of physics through the lens of quantum mechanics, ultimately reviving my childlike drive to chart the infinite seas of the sublime, physical world, which has carried me to this day.

And everything I've achieved and even becoming the person I am today wouldn't have been possible without the help of all the people mentoring me, so to Ms. Kadam, Mr. Korin, and my Science Bowl coaches, I can't thank you enough for setting me on this path, teaching me the fundamentals I've built on for years now. To Dr. Tang, thanks for introducing me to the world of higher physics. To Kevin Zhou, thanks for serving as a great guide and mentor over the past few years, leading me to countless resources for expanding my physics knowledge. To my parents, thank you for supporting me at all the steps along my physics journey. And last but not least, to Dr. Nelson—my physics teacher, research mentor, and just mentor in general—thank you for taking the time to mentor me and organize the F=ma/USAPhO over the past five years, and I can't put into words how much I've learned from your lessons and stories.

Overall, I'm incredibly honored to be invited back to the US Physics Team once again! I can't wait to meet a whole group of new faces, I can't wait to learn from all of you, and I look forward to all the memories we'll make together!