

Angelina Quan

Senior (12th Grade) at Charlotte Country Day School, Charlotte, NC

MIT Class of 2028

Achievements:

Mathematics awards include USA Math Olympiad Qualifier, 2× Top 1% Scorer on the AIME, Spirit of Ramanujan Fellowship Winner, International Math Modeling Challenge Outstanding Award, and the High School Mathematical Contest in Modeling Meritorious Award.

Research received recognitions like ISEF 3rd Place Grand Award in Mathematics, 3× ISEF Finalist, Regeneron Science Talent Search Scholar, National JSHS 2nd Place in Math & Computer Science, 2× National JSHS Finalist, Sole Author of Publication in the IEEE Access Journal, Top 10 in Cybersecurity and Technology in the Conrad Global Innovation Challenge, Congressional App Challenge Winner, and numerous other awards in research competitions.

Autobiography:

Since middle school, my fascination with the elegance and logic of mathematics led me into the world of competitive math and research. My journey in math competitions honed my problem-solving skills and simultaneously ignited my curiosity about how mathematical principles can be applied to real-world problems. This curiosity naturally evolved into my passion for mathematical modeling, where there is a profound beauty in the way equations and algorithms can encapsulate the complexities of the world around us.

As I delved deeper into developing mathematical models, I discovered the transformative potential of artificial intelligence (AI) and machine learning, particularly in their wide-ranged ability to do everything from predicting outcomes with remarkable accuracy to identify security risks. This led me to dedicate myself to exploring applying my mathematical and computer science knowledge to the study of AI. I started working on a research project where I focused on developing a novel AI framework towards streamlining the detection of cybersecurity issues in supply chains by using geometric self-supervised learning. In addition, I am designing experiments to test various geometrical data representations and the effectiveness of the self-supervised learning algorithms. Then, I am tailoring my AI model to detect subtle anomalies within the supply chains. This experience is not only sharpening my technical skills but is also giving me a profound appreciation for the power of AI to drive innovation and efficiency. As I continue my journey at MIT to study mathematics and computer science, I look forward to working on research projects that contribute to unlocking the full potential of AI to benefit humanity in an ethical way.