

Zooey Lan

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Autobiography:

Hey! I'm Zooey, a rising sophomore at The Harker School in San Jose, California. My journey into artificial intelligence began long before I knew what AI was.

When I was two years old, a severe case of pneumonia sent me to the hospital. I was too young to understand the science behind what was happening, but I was old enough to feel the impact of medicine. I just knew that the nurses injected me with some sort of "magical" medicine and little by little, I became lively again. That experience became one of my earliest memories of the world of healthcare. From then on, I began dreaming of becoming a doctor and understanding how science could help people recover.

Years later, during COVID, I was in fourth grade when my outdoor activities suddenly stopped, and my world became much smaller. Most days, it was just me and my computer stuck in a room. I started taking online programming classes that taught me to write my first "Hello, World!" program and to create games and art with Logo. What began as a way to pass time soon became a new way for me to think. As I learned C++ and Python, studied algorithms and data structures, and advanced through USACO, coding taught me how to break down complicated problems and solve them with patience and logic, eventually setting up the foundation for my coming AI journey.

My first time truly experiencing AI was through a research project. I used *Daphnia magna* as a model organism to study how artificial sweeteners affect cardiovascular stress. I needed to measure their tiny heartbeats and swimming speed from microscope videos, but manual observation was slow and inaccurate. So I turned to computer vision. I read research papers, collected data, learned model design, and debugged my system through many failed attempts. Eventually, I watched my AI-based video analysis system detect a *Daphnia*'s heartbeat and trace its swimming path across the screen. That moment changed the way I saw AI. It was no longer just a tool for programming. It was a way to study living systems and connect my passion for medicine with my love for computer

science. I've presented this work at the 2025 ACM-BCB conference, where I was able to share my research with the science community.

Recently, as I deepened my studies in AI, I began thinking about how I could use my skills to address problems in my own community. One issue that felt especially urgent was the mental health crisis among high school students. I proposed the Social-Sensing Large Language Model, or SSLLM, a multimodal AI system that combines social media activity and wearable sensor data to evaluate mental health. I fine-tuned the open-source Qwen3 language model using Tinker and developed a tabular chain-of-thought reasoning engine guided by a diagnostic knowledge graph, allowing predictions to be checked against real doctor and expert diagnoses.

I feel honored to be a member of the 2026 Team USA in the International Olympiad in Artificial Intelligence, and I am so excited to meet people around the world who share my passion for AI!

Outside of AI, I love dancing contemporary ballet, doing speech and debate, traveling the world (to experience new cuisines), hanging out with my friends, and playing with my cat! :)