

When I first came into college, I was fully dedicated to the industry route of my math major. Having already learned multiple coding languages throughout my high school career, I enjoyed finding patterns within data and preferred the practical, problem-solving aspect of programming over the writing-heavy nature of proofs. Playing to my strengths, I believed that a practical, technical career was the best fit for my goals. As such, I gravitated towards applied data science and statistics rather than pure math.

Around the same time, I encountered my first challenging math course - Honors Vector Calculus, my first semester freshman year - where the professor's favorite word was "intuition," used in place of formal proofs, and for the first time, I felt out of my depth. While the other students discussed applications of the theorems presented in class, I struggled to visualize the concepts themselves. I had always loved math for its logical reasoning, and it had usually come naturally to me - so when it suddenly didn't, it was very jarring.

That experience taught me to approach math differently. Instead of simply relying on formulas and instinct, I had to work to understand the intuition behind how those concepts held. Over time, after weekends spent locked up in our dorm basement in front of the whiteboard, I finally started to understand. I realized the beauty of this way of thinking - of sitting in the uncomfortable struggle of not understanding, but continuing to work through step by step until something clicks.

I began taking more advanced proof-based courses and joined a reading course, even when the thought of not immediately understanding the material intimidated me. Those classes challenged me to slow down, think carefully, and enjoy the process rather than just the outcome. Through those experiences, I realized that research in math and statistics wasn't just repetitive experiments and results, it was deeply understanding a topic, exploring ideas, and thinking deeply. As I progressed through my math career, I began to see the appeal of statistics. Although I had grown to love the theoretical aspects of pure math, I still loved the practical aspects of interpreting real-world data and coding. Statistics allowed me to connect the abstract reasoning I loved in math with the practical tools I'd developed through programming and data science. It became the perfect intersection of everything I loved: rigorous thinking, computational reasoning, and uncovering structure from messy data.

Looking back, I am grateful for the way my path evolved. Starting from a more industry-oriented mindset allowed me to build a strong applied computational foundation, while my later experience helped me appreciate theory and abstract reasoning. Struggling through conceptual theory taught me how to think. That journey is what now motivates me to pursue a PhD - I want to continue learning in an environment that values curiosity and persistence, the same qualities that reshaped the way I approach problems and understand the world.