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Dear Admission Committee,

I am writing to express my sincere interest in applying for the PhD in Economics Department at Yale University. My journey through the world of financial engineering and data analysis has been driven by an insatiable curiosity about the intersection of mathematics, economics, and real-world problem-solving.

As a child, I was fascinated by patterns and puzzles, spending hours with numbers and logical challenges. This early passion blossomed into a dedicated academic pursuit at Renmin University of China, where I am currently completing my undergraduate degree in Financial Engineering. While my transcript shows strong grades, what it doesn't reveal is the late nights I spent wrestling with complex economic theories, the excitement I felt when a mathematical model finally clicked into place, or the satisfaction of writing efficient code that transformed raw data into meaningful insights.

My first significant encounter with applied finance came during my internship at China International Capital Corporation. What began as a standard assignment to analyze portfolio allocations quickly evolved into a personal challenge. When my initial models showed only modest returns, I refused to settle for mediocrity. I spent weekends refining my approach, diving deeper into Black-Litterman methodologies than was required. The result—strategies that outperformed benchmarks by 4.3 percentage points—taught me that persistence often makes the difference between adequate and exceptional results.

Research has become another avenue for my intellectual curiosity. Working as a RA on green taxation impacts, I encountered datasets riddled with inconsistencies and missing values. Rather than seeing this as an obstacle, I embraced it as an opportunity to develop creative solutions. I still remember the moment when, after days of troubleshooting, my Python code successfully processed the complete dataset and revealed significant relationships that supported our research hypothesis. That moment of discovery reinforced my belief in the power of data to illuminate complex economic relationships.

The collaborative spirit of academic competition has further shaped my approach to problem-solving. Leading teams in mathematical modeling contests taught me that the best solutions often emerge from diverse perspectives. During the 2024 Mathematical Contest in Modeling, our team faced seemingly insurmountable challenges with complex climate risk data. Instead of becoming discouraged, I organized late-night brainstorming sessions where we transformed our apartment whiteboard into a maze of algorithms and models. The Honorable Mention we received among nearly 25,000 teams wasn't just recognition of our technical skills—it was a testament to our collective resilience and creativity.

I am drawn to the PhD in Economics Department at Yale University because I see it as the perfect environment to channel my passion for quantitative analysis into meaningful research. Your program's emphasis on rigorous methodology combined with practical applications aligns perfectly with my approach to learning. I am particularly interested in exploring how economic models can be enhanced through advanced computational methods—a frontier where I believe I can make valuable contributions.

Thank you for considering my application. I look forward to the possibility of bringing my enthusiasm, perseverance, and analytical mindset to your distinguished program.

Sincerely,

Hanxiao Miao