

November 15, 2023

Dear Madam or Sir,

With this letter, I'd like to express my interest in working for Renaissance Technologies. I found the position on the company website.

A little bit about me: I am a former academic, having trained under Larry Shepp, a former Bell Labs mathematician, for my Ph.D. In academia, I have taught economics, finance, mathematics, and statistics. At the University of California at Berkeley, I taught economics. At the Massachusetts Institute of Technology, and at Rutgers University, I taught mathematics. And at Saint Mary's College of California, I was a tenured professor, teaching finance to working executives across several Executive Master's programs. During this time, I honed my ability to communicate complex ideas to businesspeople with little to no background in quantitative techniques.

Additionally, I have published several peer-reviewed journal articles, despite being at a small, teaching school, with little to no research resources available to me. The ones most applicable to finance are "Power-Log Optimization and Positively Skewed Option Returns Raise Portfolio Performance and Reduce Risk" published in the *Journal of Investing*, wherein we use a power-log piecewise utility function and optimize a portfolio of an index option, the index itself, and a bond using this function. Our results show that it has an attenuating effect on volatility and gives a higher geometric mean than traditional Markowitz mean-variance optimization. In another paper, "Connecting equity and foreign exchange markets through the WM "Fix": a trading strategy" published in the *Journal of Investment Strategies*, we created an algorithmic trading strategy that exploits a behavioral anomaly in foreign exchange markets using only publicly available data. This resulted in an annualized Sharpe of 3.4.

Though in academia, I was very entrepreneurial: I founded two businesses and launched numerous programs within academia. In fact, I was hired by MIT-Sloan to help them launch an online program based on my reputation in online pedagogy, and knowledge and experience with online teaching. I also founded the first online-only certificate program in FinTech at Saint Mary's.

Given this unique combination of strong research skills, excellent communication, and entrepreneurial attitude, I believe I would be a perfect fit for the Research Scientist position at Renaissance Technologies. I very much look forward to hearing back from you.

Thanking you,

Sincerely,

Arnav Sheth.