

Dear Sir/Madam

I'm writing to show my interest in your Graduate Quantitative Trader position. I have a strong foundation in data science, mathematics (Bayesian statistics, probability, calculus, time-series analysis, and linear algebra), and object oriented programming, along with experience in sports bet trading and statistical modelling.

I'm currently pursuing a Master's degree in Data Science and Statistics at the University of Exeter, where I'm averaging a distinction, with just my dissertation remaining. My academic studies have resulted in a solid understanding of statistical modelling, machine learning methods, calculus, and time-series analysis. I have used various R and Python packages such as PyMC3 for Bayesian inference, but also Pandas and Numpy for dealing with large datasets and scientific computing. Most recently, my dissertation on calibrating a probabilistic forecast using neural networks, has required the use of packages such as Keras, TensorFlow and Pytorch.

While I graduated with a Lower Second Class (2:2) in my Bachelor's degree in Mathematics in 2021, I believe my strong performance in my Master's program demonstrates my capability and commitment to excelling in quantitative analysis. After graduating from my Bachelors degree in mathematics in 2021, I worked as a sports bet trader. This role required working unsociable hours (often nights), working quickly, under pressure, and with large financial risk. Over a full baseball season, I had a profit of 9%, laying bets at a 4-5% margin. I occasionally collaborated with the quantitative team to enhance our models, as a result of the insights I gained whilst trading.

After receiving an offer in January of 2023 to study at the University of Exeter that September, I spent the remaining months in a small, independent, private betting syndicate. We developed statistical models for various sports to place in-play bets, but also utilised various data sources in order to place value bets on pre-match markets. Although we achieved good margins, we ultimately decided that the project was not scalable. Nonetheless, this further increased my interest in working in a quantitative position.

At various points throughout the last few years, I have worked as a Private Tutor in Mathematics, helping students prepare for GCSE and A Level exams. This role required me to simplify complex topics and tailor my teaching methods to individuals with their unique learning styles.

Throughout my master's program and personal projects, I have extensively used Python and R for data analysis and modelling. I have developed a small Python application based on probabilistic algorithms, which itself is an extension of a mathematical blog post I have written to share my insights.

I'm incredibly interested and enthusiastic about financial mathematics, and the opportunity to analyse the financial markets; utilising statistical analysis, developing algorithms, and executing trades, all within a high-paced environment. I believe my academic background, hands-on experience, and passion for statistics and analytics, make me a strong candidate for this position.

Thank you for considering my application. I look forward to hearing back from you.

Sincerely,  
Bailey Turner