

14/10/2024

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Dear Sir or Madam,

I am writing to express my interest in the Quantitative Analysis/Data Science Global Graduate Program at Old Mission. With a robust foundation in quantitative trading, advanced machine learning techniques, and data-driven commodities analysis, I am eager to apply my expertise to support and enhance the decision-making processes at Old Mission.

In my recent internship at Freepoint Commodities, I developed machine learning models for predicting UK power prices employing variants of recurrent neural networks. I also developed a Deep Q Learning algorithm for TTF natural gas trading. I implemented a backtesting framework to assess the performance of these models in real-time, allowing for efficient testing and iteration of trading strategies. Additionally, I worked with other members of the team to develop stochastic process models to identify market regimes quantitatively. These experiences deepened my technical expertise in handling large datasets, integrating complex algorithms, and transforming raw data into actionable insights for commercial success in the commodities markets.

For my MSc thesis at ETH Zürich, I focused on developing a deep learning method to optimize stochastic reaction networks using Variational Autoregressive Networks. This work required a high level of proficiency in PyTorch, as well as advanced understanding of stochastic processes and optimization techniques. The method I developed improved both the accuracy and computational efficiency of predictions in high-dimensional stochastic models, contributing to advancements in the field.

My ability to translate technical insights into business applications was also sharpened during my internship at Mako Trading, where I was involved in various tasks such as equity research, simulated options market making, and applying a delta hedging strategy to the trading of an option.

Throughout my professional and academic career, I have consistently demonstrated my ability to solve complex problems and communicate findings clearly. Moreover, my commitment to collaboration and teamwork has enabled me to contribute effectively to both academic research settings and competitive professional environments.

I am excited about the opportunity to bring my quantitative analysis skills to Old Mission and to leverage my passion for data-driven insights to drive value. I am confident that my technical background and determination will allow me to make a meaningful contribution to your team. Thank you for considering my application.

Yours faithfully,

Alexander Walter