

**DANNY SMITH**

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**Earliest Available Start Date:** September 2023/ Jan 2024

**Cumulative GPA:** 4.0

Dear Hiring Manager,

I came across an opening for the position of a Quantitative Analyst at Morningstar. Based on the required & preferred qualifications, I think I would be a great fit for the role given my academic background and relevant work experience. I am passionate about machine learning (ML) research and being part of solutions that utilize ML to model market behavior and inform investment decisions.

My projects in ML (academic and professional) have been in three areas - Natural Language Processing, Computer Vision and Time series. I interned in the Quant Research team at Morningstar in Spring 2019. I worked on the problem of sentiment analysis for predicting the effect of financial news on the price of equities, utilizing transfer and unsupervised learning approaches. This line of work eventually concluded with a paper that showed financial news has limited significance in longer term value investments. I also built an electricity commodities price forecasting model utilizing an LSTM network, and an NLP based framework for thematic investments. My undergraduate research project involved classifying EEG signals using aggregate statistics of the Discrete Wavelet transforms of the time series signal. In Vision, I have worked on the OCR of Devanagari scripts and driver state detection. As part of my undergrad education I studied Derivatives and Risk Management. Additionally, I have taken a certified course from the BSE (Bombay Stock Exchange) on Technical Analysis.

I am currently a Master's student at Northeastern studying Machine Learning. The courses I have taken here include Deep Learning, Parallel Processing, Machine Learning, Advanced Machine Learning, Algorithms and Reinforcement Learning. These have helped me build foundational knowledge in the field of ML such that I am able to read & implement research papers in order to work towards the solution of a specific problem. In the previous semester, I was a Data Scientist Co-op at Abiomed where I worked on the prediction of left ventricle volume from cardiac pump signals and physiologically effective upsampling of aortic pressure signals. This gave me invaluable experience in driving projects in an interdisciplinary environment and an applied research team.

I believe the combination of my advanced graduate level knowledge backed with relevant internship experience in applied ML uniquely positions me to excel in this profile. I enjoy working on theoretical & technically challenging models, often implementing the latest approaches, and would like to have the opportunity to apply them & provide input to value driven investment. Consequently, I would greatly appreciate it if I were given the opportunity to interview for this position. Thank you for your time and attention.

Regards,

Danny Smith