Dennis Kim, CFA

d.kim@colostate.edu • 512.968.5017 • Fort Collins, CO

Inquisitive and detail-oriented analyst driven by data exploration and thoughtful mining, concentrating on portfolio level research. My training includes applications in fundamental analysis and quantitative strategy analysis, incorporating the use of statistical techniques and/or non-parametric methods. I have earned my charter holder designation with the CFA institute and am proficient in the following areas:

- ❖ Statistical & Causal Inference
- ❖ AI/Machine Learning
- ❖ Reinforcement Learning
- ❖ Object-oriented programming
- ❖ High-performance computing
- ❖ Parallel processing

EDUCATION/TRAINING

Colorado State University, School of Computer Science — Present
Doctor of Philosophy in Computer Science, GPA: 4.0
Clubs: CFA Society

New York University, Tandon School of Engineering — 2021 – 2023
Master of Science in Mathematical Sciences
Clubs: CFA Society of New York (Quantitative Investing Group)

PROFESSIONAL EXPERIENCE

Data Scientist
NYU Active Portfolio Management with ML and Time-Series Forecasting – New York, NY — 2023
- Researched and tested models for policy development in deep reinforcement learning techniques for portfolio management.
- Back tested strategies against historical data and measure model efficacy.
- Achieved a 1.2+ Sortino ratio of a DRL network over a portfolio of assets using ELU activation functions in existing framework.
- Reduced epochs-to-policy convergence by 9%.

Data Scientist Intern
Woori Juntos - Remote — 2023
- Developed insights used to customize campaign strategies using inferential statistics from existing survey responses.
- Consulted on future survey/question construction to align responses with organization insight needs.
- Produced descriptive analytics for stakeholder/campaign literature and presentations.
- Deployed a shallow neural network to collapse free-response/unstructured data into buckets of related topics.
- Analyzed reported crime statistics in an effort to develop strategic initiatives addressing respondent/community concerns.

Machine Learning/Artificial Intelligence Researcher and Team Coordinator
NYU Artificial Intelligence for Scientific Research – New York, NY — 2022
- Improved SNR 3x from spectroscopy imaging using an FFT & CNN architecture for oxygen concentration measurement.
- Established relationships with 4 research labs in the Tri-state area and the NYU signal processing team.
- Designed, tested, and benchmarked machine learning and/or artificial intelligence techniques for sequential analysis tasks.
- Managed team workflow and create project plans to fit researcher needs.

PROJECTS

Positive Behavioral Canine Training with Neural Networks and Transfer Learning Optimized for Resource Constrained Platforms
CS528 Embedded Systems and Machine Learning — 2024
- Develop lightweight neural network for real-time behavioral training with 92% accuracy at 8% of the original size.
- Implemented advanced optimization techniques like pruning, weight clustering, and quantization.
- Enhanced model transparency and reliability using GradCAM and integrated gradients.

COMPUTATIONAL SKILLS / OTHER

Programming Languages and Software
Languages: Python, SQL, R, Java, C, LaTeX
Software & Systems: Pandas, Numpy, Sk-learn, Keras, Matplotlib, Seaborn, PyUnit, JUnit, Mockito, SLURM

Certificates & Awards
Chartered Financial Analyst