Chris Pedretti

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LinkedIn
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EDUCATION

American University, Wash. DC
Expected Dec 2024
BS in Computer Science
Minor in Finance
Major GPA: 3.5

Coursework:

- Data Mining, Neural Networks, Generative AI, Database Management
- Financial Modeling, Investment Analysis, Financial Markets and Institutions

SKILLS

Coding Languages:
Python, SQL, Java, C, HTML, CSS, LaTeX, Machine Learning (TensorFlow), Deep Learning, Natural Language Processing, Computer Vision

Finance Experience:
Financial Modeling, Technical Analysis, Derivatives

PUBLICATIONS (work in progress)

- *Enhanced Prediction of Detonation Velocity in Energetic Molecules Using Multimodal Data Fusion and Machine Learning.*
- *Language Model Crossover: Variation Through Few-Shot Prompting (Capstone project)*

RELEVANT PROJECTS (Python-based)

- Autoencoder for Handwritten Digits (MNIST): designed a basic AE trained on the MNIST dataset to generate handwritten digits
- Deep Learning Neural Network (DLNN): built a basic neural network for predictive regression and classification tasks.
- Convolutional Neural Network (CNN): created a CNN to predict Total Solar Irradiance of the Sun.
- Reinforcement Learning (RL): developing an RL agent to play Flappy Bird.
- Long Short-Term Memory Network (LTSM): applied LSTM to predict Bitcoin spot price and Ethereum gas price.
- Language Model Crossover: utilized few-shot prompting to create generative models for code, text, and images.
- Implemented an AI-based sentiment analysis tool using ChatGPT requests to generate sentiment about a company's recent earnings report and call transcript.
- Created a portfolio optimization app that takes an input of stock tickers for a portfolio and returns financial metrics and expected returns.

RELEVANT EXPERIENCE

Research Assistant, **American University**, May 2024 – Present

- Conducted research on the application of ML and NLP for discovering energetic materials; automated 75 trials across 3 experiments.
- Handled multi-modal data processing, model development, and performance evaluation.
- Co-authored research report analyzing results.

Intern - Remote, **Niya Capital**, Miami, FL, January 2024 - April 2024

- Assisted in the due diligence of live venture capital investment opportunities.
- Drafted portfolio updates for investors.
- Supported partners in modeling of potential transactions.

Intern - Remote, **Algorithmiq,** Helsinki, Finland, August 2023

- Helped debug and test new bugs in novel and proprietary quantum computing software for drug discovery.

Intern - Remote, **Blue Glass Capital**, Boston, MA, January 2023 – April 2023

- Pitched macro-economic trends for potential investment opportunities.
- Authored direct outreach memoranda to source deals.
- Performed company valuation to assess prospective returns.

Additional Finance Data Analytics Projects (Python-based):

- Developed a tool to calculate the Weighted Average Cost of Capital for discounted cash flow model.
- Created an application to generate amortization tables for loans.
- Translated financial Dividend Discount Model to Python to analyze the present value of expected future dividends. Wrote a multi-stage DDM and a Gordon Growth Model with similar functionality.