Evan Zimmerman

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Github: https://github.com/EvanZimmerman307?tab=repositories

EDUCATION

University of Michigan - Ann Arbor, MI *August 2024 - December 2025 (Expected)*
Master of Science in Computer Science and Engineering
Coursework: Foundations of AI, Algorithms for Machine Learning and Data Science

University of Virginia - Charlottesville, VA *August 2020 - May 2024*
Bachelor of Science in Computer Science, *Minor in Data Science* (GPA: 3.9/4.0)
Coursework: Data Structures and Algorithms, Machine Learning, Regression Analysis, Database Systems, AI

RESEARCH EXPERIENCE

UVA Biocomplexity Institute, ***High Performance Data Engineering Researcher*** – Charlottesville, VA *May 2024 - Present*

- Integrated Nvidia Collective Communications Library into the communication layer of Cylon, a high performance data engineering framework, to optimize GPU utilization for data engineering operations
- Implemented an all-to-all collective communication operation with a custom channel to optimize distributed join

UVA, *Machine Learning Stock Price Forecasting Researcher* – Charlottesville, VA *September 2023 - December 2023*

- Under the guidance of a UVA Professor, trained various machine learning models in TensorFlow for forecasting next-day stock closing prices using historical price data
- Evaluated the accuracy of Long Short-Term Memory networks, random forest regressors, and linear regression, and compared various training features, such as volume and price data from similar companies

WORK EXPERIENCE

AnalystKit, ***Data Science Intern*** – Charlottesville, VA *September 2023 – September 2024*

- Prototyped a RAG-powered AI chatbot with Python, Langchain, Chroma DB, and OpenAI API to explain investing concepts to users
- Developed a model in Python that leveraged historic stock return data to forecast the covariance of stock returns
- Utilized covariance forecasts to develop a Python program that constructed optimal portfolios for select portfolio strategies

EY, ***Forensic Technology Intern*** – New York, NY *June 2023 – August 2023*

- Designed a computationally efficient natural language processing model in Python for generating word embeddings through probabilistic methods
- Applied the model to execute similarity searches to identify whether a given text contained information connecting a client to financial crime

PROJECT EXPERIENCE

University of Virginia, *NCAA Basketball Focus*

- Designed a Polynomial Support Vector Machine and a Random Forest Classifier with Scikit-learn to recommend a basketball player's ideal position, yielding accuracies of 91% and 88% respectively - won 1st place in the 2022 Machine Learning for Virginia competition
- Analyzed position groupings of over 19,000 unique players across 10 seasons using K-means clustering, identifying key performance metrics that differentiate each position

SKILLS

Programming Languages & Tools: Python, C++, Go, SQL, C#, HTML/CSS, JavaScript, R, Linux, Git, LaTeX
Cloud Platforms & Databases: AWS, Google Cloud Platform, Azure, MySQL, PostgreSQL, Chroma DB
Frameworks & Libraries: CUDA, NCCL, SciPy, NLTK, Django, Next.js, Langchain, Scikit-learn, Tensorflow, Pandas, Numpy