Eric Durbin

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Education

Purdue University, West Lafayette, IN   May 2023
- BS in Computer Science, specialization in Machine Learning, Minor in Mathematics   GPA: 3.94

Professional Experience

Zotec Partners   June – August 2021, June – August 2022

Software Engineer Intern
- Managed a small team to create a Web-App to streamline the configuration of medical appeal forms
- Deployed a Web-App created from scratch in a full Agile/Scrum development cycle
- Gained full-stack experience using AngularJS, FastAPI, AWS Lambdas, Python, and other modern web API technologies

Machine Learning Research Experience

Graph Neural Network Undergraduate Research   August 2021 – December 2021
- Reduced SEAL GCN training time by 94% with no loss to accuracy
- Improved model preprocessing methods to make them faster and use less memory
- Collaborated with a team of researchers and lead discussions on possible improvements to the model

Project Experience

Automated Stock Portfolio Allocator using Modern Portfolio Theory
- Designed an automated trading program that bought and sold stocks to make an optimal portfolio
- Maximized the Sharpe Ratio of each portfolio to have the optimal return with a given variance (risk)
- Utilized Markowitz Modern Portfolio Theory for optimization and Temporal Principal Component Analysis to reduce correlation between predictive inputs to a Mixture Density Network model

Image Enhancing with Generative Adversarial Networks (GANs)
- Created a model that enhanced low resolution images to be more clear
- Translated different models from research papers into usable programs

Loan Repayment Prediction
- Predicted whether someone would repay a loan using Gradient Boosted Decision Trees
- Achieved an accuracy that was significantly better than random guessing
- Minimized statistical bias in the data to obtain better predictive results

Technical Skills

ReactJS, Angular, Python, Tensorflow, Keras, SQL Alchemy, FastAPI, Typescript, AWS, Agile/Scrum