Ian Sabolik

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Education

Texas A&M University College Station, TX
Bachelor of Science in Computer Science *Aug. 2020 – May 2024*

Experience

Software Engineer January 2023 – May 2023
MOVE Texas A&M *College Station, TX*

- Developed a full-stack web application using Ruby on Rails, PostgreSQL, and Docker for the MOVE Texas A&M student organization in a semester-long Software Engineering class
- Collaborated with a team of four other students to create an efficient system for organizing events, tracking attendance, and managing activities for over 100 members
- Reduced administrative workload by 50% by automating manual processes and integrating third-party APIs.
- Utilized GitHub for version control, continuous integration, and deployment to Heroku, resulting in a 20% reduction in development time
- Integrated the application with Google Calendar, enabling automatic synchronization of events

Machine Learning Research Assistant June 2023 – Present
Texas A&M University *College Station, TX*

- Assisted in the development of BoxHED2.0, a software package for nonparametrically estimating hazard functions via gradient-boosted trees
- Partnered with a graduate student to enhance ML preprocessor efficiency by 20%, implementing streamlined methods and optimizing workflows
- Translated Python preprocessing code into R, enabling cross-platform compatibility and facilitating collaboration with R-centric researchers
- Created a detailed presentation outlining the preprocessing steps and their Python implementation for the machine learning model.

Projects

Predictive Modeling with Machine Learning | *Neural Networks, PyTorch, Python* January 2023 – May 2023

- Collaborated with two others to develop a highly effective machine learning model for predicting in-hospital mortality based on clinical health data (AUC-ROC score: 0.91522)
- Preprocessed and standardized subset of eICU dataset with 50 columns of numerical data
- Implemented optimized neural network with tuned hyperparameters and Adam optimizer.
- Addressed imbalanced data challenge through effective oversampling technique.
- Demonstrated meticulous approach to hyperparameter tuning for optimal model performance.

Ray Tracer | *Computer Graphics, Advanced Trigonometry, C++* January 2023 – May 2023

- Developed a C++ program that utilizes ray tracing to generate images
- Implemented lighting and shadows, supporting multiple light sources
- Created reflective spheres that accurately capture scene reflections

Point of Sale System | *React.js, JavaScript, PostgreSQL, Python, Git* August 2022 – December 2022

- Collaborated in a team of six in a school project to design and developed a database management system for a point-of-sale system using SQL
- Built a front-end website using React.js, connected to the back-end, built using Express.js
- Programmed Python scripts to populate the database with existing data

Skills

Languages: Python, C++, Java, SQL (PostgreSQL, MySQL), JavaScript, TypeScript, HTML/CSS, R, Ruby
Frameworks: React, Node.js, Express.js, Ruby on Rails
Developer Tools: Git, Docker, Google Cloud Platform, VS Code, Visual Studio, PyCharm
Libraries: pandas, NumPy, Matplotlib, PyTorch, scikit-learn, OpenGL, OpenMP
Soft Skills: Communication, Problem-Solving, Adaptability, Teamwork, Time Management, Leadership