CHRISTIAN SUN

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EDUCATION

University of Pennsylvania | Philadelphia, PA May 2024

Bachelor of Science in Engineering in Computer Science | *Minor in Mathematics* | *GPA*: 3.95/4.0 | *ACT*: 36/36

Relevant Coursework: Discrete Mathematics (A+), Data Structures & Algorithms (A+), Big Data Analytics (A), Programming Languages & Techniques (A), Linear Algebra & Differential Equations (A+), Computer Architecture (TBD)

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, HTML & CSS, C++, OCaml, SQL, LaTeX

Other Skills: PostgreSQL, DynamoDB, AWS, React, Redux, Node.js, Swing, Linux, Git, Apache Spark, PyTorch

PROFESSIONAL EXPERIENCE

Macmillan Learning | Software Engineering Intern | Austin, TX May 2021 – August 2021

- Created an analytics site using React, Redux, Node.js, JavaScript, PostgreSQL, HTML, and CSS as a full stack developer
- Implemented an end-to-end solution with an API that extracted data from a PostgreSQL database based on queries
- Extracted various statistics from data and routed them to a React and Node.js front-end used by over 1,000 teachers globally

University of Pennsylvania CS Department | Teaching Assistant **|** Philadelphia, PA January 2021 – Present

- Instructed 15+ students during weekly recitations, graded assignments/exams, and held weekly office hours
- Wrote homework problems covering set theory, combinatorics, probability, graph theory, proof techniques, and more

JHU Applied Physics Laboratory | Data Science/Machine Learning Intern **|** Laurel, MD Summers 2018 & 2019

- Designed agent-based models in Python to investigate the limits of current social science modeling techniques
- Analyzed research papers to develop an efficient convolutional neural network architecture for machine learning
- Modified the U-Net architecture to build a computer vision model to identify damaged buildings in satellite imagery using Python and the PyTorch deep learning library to accelerate humanitarian relief operations

TECHNICAL PROJECTS

Mental Math Game July 2021 – August 2021

HTML, CSS, React, AWS Amplify, AWS GraphQL, AWS DynamoDB

- Utilized HTML, CSS, and React to create a website that allowed users to practice mental math with a clean user interface
- Integrated AWS Amplify, GraphQL API, and DynamoDB to facilitate user authentication and storage of high scores

Short Term Reversal Stock Trading Bot May 2021 – August 2021

Python, Alpaca API, Requests, Backtester

- Implemented a strategy for trading 100 largest stocks by market capitalization based on weekly performances in Python using the Alpaca REST API and HTTP requests to create trades
- Validated the success of the strategy by backtesting it on historical financial data

Deposit Predictions April 2021 – May 2021

Python, Jupyter Notebook, Pandas, Scikit-Learn, Seaborn, Matplotlib, NumPy

- Cleaned data from a telemarketing campaign by using EDA and feature engineering with Python and Pandas
- Implemented a variety of classification models, such as KNN, Random Forest, XGBoost, Neural Networks, and more

Checkers with Minimax AI November – December 2020

Java, Java Swing, Java Abstract Window Toolkit

- Programmed a single and/or multiplayer checkers game with a fully-featured GUI in Java using the Swing library
- Engineered a checkers AI using the minimax algorithm and implemented alpha-beta pruning to accelerate move selection
- Allowed players to undo moves and save/load games using file I/O