ALEX PRESTON

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EDUCATION

Southern Methodist University | GPA: 3.3 May 2022 Bachelor of Science Computer Science

Coursework: Algorithms, Data Structures, Software Engineering, Databases, Security, Discrete Math & Probability, Assembly, Linear Algebra, Digital Logic Design

Honors: Second Century Scholars Program

EXPERIENCE

SMU ATLAS Experiment | Undergraduate Researcher Aug 2020—Present

* Exploring the feasibility of deploying neural networks on a Field-programmable gate array for particle classification at the Large Hadron Collider
* Optimizing neural network using QKeras to reduce latency and increase throughput
* Developing Jupyter Notebooks to visualize how neural network processes collision images from particle data

SMU Lyle School of Engineering | CS 1342 Teaching Assistant Aug 2020—Present

* Teaching and Assessing various introductory labs and programming assignments for over 100+ undergraduate students (Principles of Computer Science, Programming Concepts)
* Mentoring students with C++ and Java Programming, including memory management, File I/O, and Object-oriented design

Securboration| Software Engineering InternMay 2019—June 2019

* Created Python micro-service to automatically find the nearest weather station (including redundancy checking when data was not available)
* Fetched weather data from government API based on plane crash date and location to populate an Excel report that aided in visualization of accident data
* Performed data cleanup in Python to increase the quality of weather station data by removing fuzzy duplicates, deleting unnecessary columns, and manipulating data when needed

PERSONAL PROJECTS

Book Summarizer | Independent Project May 2020—Present

* Creating a website in Django capable of summarizing articles, scientific journals, and books
* Designing database in PostgreSQL to transfer multiple summary lengths to user
* Implementing 7 different extractive summarization algorithms in Python for user to choose from
* Automating memory management of database in Celery to increase speed of accessing data

GP Quantitative | Group Project June 2020—Present

* Worked in a team of 3 to create a financial website for retail investors to find markets trends
* Designed data visualizations in Pandas, JavaScript, and Matplotlib for front end website
* Created scrapers in Python and Node.js to pull alternative market data unavailable through APIs

News Aggregator | Independent Project Dec 2019—Jan 2020

* Created a content aggregator in Python and Django to scrape articles from news sites for curated news site
* Automated back-end tasks to have scrapers continuously pull new headlines in real-time
* Designed a responsive mobile version in CSS and Javascript to change based on device type

TECHNICAL SKILLS & INTERESTS

Languages/Technologies: Back-end development in C++, Python, Java; Experienced with JavaScript HTML/CSS, MySQL. Familiar with TensorFlow, Keras, PostgreSQL.

Interests: Philosophy, Machine Learning, Space, Energy, Cycling, Writing