ALEX PRESTON

apreston@smu.edu | Github | Personal Site | LinkedIn

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 Intern   **May 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