Richard So

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Education

Georgia Institute of Technology **August 2021 – May 2024**
B.S. in Computer Science — GPA: 4.0 *Atlanta, GA*

- Relevant Coursework: Java OOP, Data Structures & Algorithms, Computer Organization

Skills

Programming Languages | Java, Python, JavaScript, TypeScript, MATLAB, SQL, C/C++
Frameworks & Libraries | Vue, React, Angular, Flask, Electron, NumPy, Pandas, Matplotlib, PyTorch, XGBoost
Technologies | Git, Vim, REST, CMake, Firebase, MongoDB, PostgreSQL, SQLite, Teradata, Salesforce

Experience & Research

Union Pacific **May 2022 - August 2022**
Software Development Intern *Omaha, NE*

- Generated rail shipment pricing models with up to 97% accuracy utilizing Salesforce CRM Analytics and XGboost.
- Decreased error margins of price estimations by 31% versus an existing 3rd party pricing analytics solution.
- Created and deployed an Angular application to fetch predictions from said models; currently used by sales team.
- Practiced data lookup, parsing, and cleaning from internal Teradata relational databases with SQL and Pandas.

EPIC Lab - Georgia Institute of Technology **January 2022 - Present**
Undergraduate Research Assistant *Atlanta, GA*

- Analyzed experimental data with MATLAB to discover optimal hip/ankle exoskeleton torque assistance parameters.
- Revamped a data pipeline for multi-dimensional electromyography, metabolics, and 3-D motion capture timeseries.
- Maintained a codebase to visualize muscle activity and metabolic cost differences between trial conditions.
- Implementing a feature selection algorithm to determine muscle groups which correlate most with walking speeds.

Brooklyn College - City University of New York **July 2019 - September 2021**
Researcher *Brooklyn, NY*

- Performed research on machine learning applications under Dr. Michael I Mandel at Brooklyn College CUNY.
- Optimized an existing bird audio detection model to be over 90% accurate using the PCEN audio preprocessor.
- Utilized foreground segmentation techniques to predict and automatically annotate animal presence in image data.
- Co-Author of a 2020 IEEE ICASSP conference paper featuring my research on ML for bird audio detection.
- Familiarized with image/spectrogram data wrangling and visualization approaches using Numpy and Matplotlib.

Projects

eyePause Desktop Application Utility | *TypeScript, Electron*

- Engineered a desktop application to track screen-on time and assist users in taking regular breaks from the device.
- Developed using the Electron framework and TypeScript language under the hood.

Staten Island Solar Car Telemetry System | *C++, PlatformIO, SQLite*

- Prototyped a real-time solution to track and transmit solar car vital data to a local SQLite database.
- Programmed Arduino microcontrollers to manage multiple hardware modules (GPS, LoRa Radio, LCD, & ADC).

Full-Stack Recipe Sharing Application | *JavaScript, Nuxt, Firebase*

- Constructed a server-side rendered application for users to post and view food recipes using Nuxt.js.
- Binded Firebase Authorization, Cloud Firestore, and Storage backend services to a responsive frontend interface.

Awards & Achievements

- Cultivated over 500,000 viewers of my technology/programming blog on Medium.
- Winner of the Milton Fisher Scholarship for Innovation and Creativity.
- 1st Award Winner of the 2020 TNYC STEM Fair.