

RICHARD SO

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EDUCATION

Georgia Institute of Technology

August 2021 – May 2024

College of Computing — B.S. in Computer Science

Atlanta, GA

- Threads: Intelligence & People; GPA: 4.0
- Relevant Coursework: Java OOP, Data Structures & Algorithms, Computer Organization, Objects & Design

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 Railroad

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.

Exoskeleton & Prosthetic Intelligent Controls (EPIC) Lab

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 forward feature selection 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 & INTERESTS

eyePause Desktop Application Utility | TypeScript, Electron

July 2022

- 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

June 2021

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

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

May 2021

- Constructed a server-side rendered application for users to post and view food recipes using Nuxt.js.
- Bound Firebase Authorization, Cloud Firestore, and Storage 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.