

# RICHARD SO

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## EDUCATION

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### Georgia Institute of Technology

08/2021 – 05/2024

B.S. in Computer Science — GPA: 4.0

Atlanta, GA

- Relevant Coursework: Java OOP, Data Structures, Computer Organization, Algorithms Honors, Artificial Intelligence

## SKILLS

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**Programming Languages** | Python, JavaScript/TypeScript, Go, C/C++, MATLAB, Java  
**Frameworks / Libraries** | Vue, React, Angular, NumPy, Pandas, Matplotlib, Scikit Learn, PyTorch, Keras  
**Technologies** | Git, Vim, REST, Firebase, RDBMS (SQL), Salesforce CRM, LaTeX

## WORK EXPERIENCE

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### College of Computing — Georgia Tech

01/2023 – Present

Teaching Assistant

Atlanta, GA

- Led sections of a 50-student cohort in the course instruction of CS 2110: Computer Organization & Programming.
- Lectured biweekly on the foundations of computer architecture, datapath tracing, LC-3 assembly, and the C language.
- Aided 800+ students in course material and assignment debugging via office hours and student Q&A forms.

### Union Pacific

05/2022 – 08/2022

Technology 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.

### Exoskeleton Prosthetic Intelligent Controls (EPIC) Lab — Georgia Tech

01/2022 – 08/2023

Undergraduate Research Assistant

Atlanta, GA

- Assisted in training and experimenting machine learning (CNN) gait phase estimator models with inertial sensor data.
- Analyzed subject physiological data using MATLAB to discover optimal exoskeleton torque assistance parameters.
- Fully automated a data extraction pipeline for multi-dimensional electromyography and metabolic activity timeseries.

### Research Foundation of The City University of New York (CUNY)

07/2019 – 12/2021

Independent 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.

## PROJECTS

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### LC-3 Program Assembler and Simulator 🐙 | Go, Assembly, Little Computer 3

- Built a computer simulator in Golang that executes object files, satisfying nearly all specifications of the LC-3 ISA.
- Assembler supports syntax error checking and conversion from LC-3 assembly into object (binary) executables.

### Solar Car Telemetry System 🐙 | C++, PlatformIO, SQLite

- Prototyped a real-time solution to measure and transmit vital statistics of a solar car to a local SQLite database.
- Programmed microcontrollers to manage communication between hardware modules (GPS, ADCs, LoRa Radio).

## AWARDS & ACHIEVEMENTS

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- Cultivated 500,000+ viewers and 900+ followers of my technology/programming blog on [Medium](#).
- Winner of the [2021 Milton Fisher Scholarship for Innovation and Creativity](#).
- 1<sup>st</sup> Award Winner of the 2020 Terra NYC STEM Fair.