

# RICHARD SO

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## EDUCATION

### Georgia Institute of Technology

08/2024 – 05/2025

*M.S. Computer Science, Interactive Intelligence*

*Atlanta, GA*

- Coursework: Machine Learning, Computer Vision, Natural Language Processing, Data-Centric ML, Algorithms Honors

### Georgia Institute of Technology

08/2021 – 05/2024

*B.S. Computer Science — GPA: 4.0*

*Atlanta, GA*

## WORK EXPERIENCE

### Amazon Web Services

05/2024 — 08/2024

*Software Engineering Intern (ML)*

- Member of an investigative research team that quantitatively analyzes user and developer experience across AWS.
- Reduced runtime of an internal data pipeline by >85% leveraging a parallelized fork-join model with AWS Lambda functions.
- Automated activity labeling of user session screenshots using Amazon Rekognition, Textract, and Anthropic's Claude LLMs.

### Georgia Tech Financial Services Innovation Lab

05/2024 — Present

*Research Assistant*

- Explored benchmarking strategies and metrics to evaluate against state-of-the-art LLMs in financial/economic contexts.
- Devised robust document parsers with BeautifulSoup, RegEx, and spaCy to compile immense datasets for LLM fine-tuning.

### Tanium

06/2023 — 08/2023

*Software Engineering Intern*

- Implemented CRUD logging into an internal PostgreSQL database and RESTful API interface to elevate console visibility.
- Rapidly tackled 50+ Jira tickets within a 10-week internship maintaining a Knex.js and React TypeScript codebase.
- Exercised test-driven development and data validation using Jest, Jasmine, and Joi to ensure UI and API reliability.

### Georgia Tech College of Computing

01/2023 — 05/2024

*Senior Teaching Assistant*

- Headed biweekly lectures on computer architecture foundations, the C language, and memory allocation principles.
- Developed unit testing suites, docker images for auto-grading, and course software servicing 1000+ students per semester.

### Union Pacific

05/2022 — 08/2022

*Technology Intern*

- Designed explainable ML regression models to estimate rail shipment prices for customers using XGBoost and SHAP.
- Performed rigorous feature engineering to achieve a 31% RMSE decrease versus UP's existing pricing analytics solution.

## PROJECTS

### Generative Data Augmentation for Image Classification | PyTorch, Stable Diffusion, ControlNet (🔗)

04/2024

- Experimented with multiple image generative models to enhance image classification accuracy when data is scarce.
- Observed a 10% F1 increase for Resnet-50 on a compact dataset when augmented with ControlNet-generated images.

### LC3Tools | C++, Vue, Electron, LC-3 Assembly (🔗)

10/2023 — 05/2024

- Lead maintainer of the educational tooling suite to code, assemble, and simulate assembly programs for the LC-3.
- Added 20+ major quality-of-life improvements through student and instructor feedback as a fork from the original project.

### Alaskan Wildlife Image Segmentation | Python, PyTorch, Pillow (🔗)

09/2021

- Utilized and refined the FgSegNet segmentation model to predict and automatically annotate animal presence in image data.
- 1<sup>st</sup> Award Winner of 2021 Terra NYC STEM Fair and Milton Fisher Scholarship for Innovation and Creativity.

## SKILLS

**Programming Languages** | Python, TypeScript/JavaScript, C/C++, Go, MATLAB, Java, Lua

**Frameworks & Libraries** | React, Vue, Angular, Jest, Express, Flask, PyTest, NumPy, Pandas, SkLearn, PyTorch

**Databases & Misc.** | Firebase, PostgreSQL, SQLite, Git, Github Actions, Docker, LaTeX, Vim, AWS