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, NLP, Data-Centric ML, Databases, 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 to evaluate against state-of-the-art, fine-tuned LLMs in financial/economic contexts.
- Experimented with hierarchical knowledge graphs to aid in query-focused summarization tasks for LLMs with Graph RAG.

Tanium   06/2023 — 08/2023
Software Engineering Intern
- Implemented CRUD logging into a backend PostgreSQL database and REST API to elevate user visibility of Tanium Server.
- 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 best practices using Jest, Jasmine, and Joi.

Georgia Tech College of Computing   01/2023 — 05/2024
Senior Teaching Assistant
- Lectured biweekly to 50+ students on computer architecture foundations, the C language, and memory allocation concepts.
- Developed unit testing suites, docker images for auto-grading, and course software for 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* (⌨)   09/2023 — 05/2024
- Lead maintainer of the educational tooling suite to code, assemble, and simulate assembly programs for the LC-3.
- Contributed 6000+ lines of code as major quality-of-life improvements through student and instructor feedback.

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.
- 1st 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, Java, Lua
Frameworks & Libraries	React, Vue, Express, Electron, Flask, NumPy, Pandas, SkLearn, PyTorch, HuggingFace
Databases & Misc.	PostgreSQL, SQLite, RocksDB, MongoDB, Firebase, Git, Docker, AWS, Neovim