

Sean Liu

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Education

Georgia Institute of Technology, Atlanta, GA

- M.S. in Computer Science, Machine Learning concentration (GPA 3.9) *August 2024 - December 2025*
- B.S. in Computer Science, minor in Economics (GPA 3.89) *August 2021 – May 2024*

Skills

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|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Programming Languages: | Python, Java, C/C++, C#, SQL, R, JavaScript, Go, HTML, Assembly, Stata, MATLAB, Mathematica |
| Frameworks/Tools: | Git, GitHub, Bitbucket, Tableau, SQL Server, SQLite, MySQL, Access, Excel, AWS, Angular, Vertex AI, Azure, Docker, Windows, Linux, NumPy, Pandas, Matplotlib, sklearn, PyTorch, TensorFlow, Streamlit |
| Software Development: | Object-oriented programming, Data structures and algorithms, Databases, Data warehousing, Data mining, Cybersecurity, Web scraping, UI/UX |
| Core Skills: | Artificial intelligence, Machine learning, Deep learning, Natural language processing, Data analytics, Data visualization, Computer vision, Optimization models, Simulation models |

Experiences

Charles Schwab, Software Engineering Intern, Lone Tree, CO *June 2025 – August 2025*

- Built and enhanced internal tools to streamline AI-driven model risk management workflows, increasing efficiency and ensuring compliance with regulatory standards
- Developed Python scripts to automate model reporting, including querying SQL databases, computing model performance metrics, summarizing metrics with Azure AI, and producing visualizations aligned with industry reporting formats
- Collaborated across departments to deliver scalable software supporting enterprise-wide model oversight

Georgia Tech Financial Services Innovation Lab, Graduate Research Assistant, Atlanta, GA *August 2024 – May 2025*

- Created tools leveraging artificial intelligence to support financial and economic decision-making
- Served as a liaison between the professor, research staff, and interns, facilitating collaboration and communication
- Supervised 20 research interns, providing technical guidance in data curation, coding, and model and application development

Georgia Tech Financial Services Innovation Lab, Volunteer Research Assistant, Atlanta, GA *May 2024 - August 2024*

- Conducted multidisciplinary research between Georgia Tech's College of Computing and College of Business
- Analyzed the decision-making and predictive abilities of large language models in financial contexts
- Wrote Python scripts to aggregate financial data and legislation, contributing to training a financial large language model

Georgia Tech Vertically Integrated Projects, Researcher, Atlanta, GA *August 2022 - December 2023*

- Collaborated on the Autonomous and Connected Transportation (ACT) Driving Simulator, a faculty-led multidisciplinary project
- Designed innovative transportation solutions, focusing on accessibility and sustainability in smart cities
- Created machine learning models in Python to detect driver distraction and predict driver behavior from physiological data, achieving over 80% test accuracy and enhancing road safety

Alpha Models, Inc., Software Engineering Intern, Cumming, GA *May 2023 - August 2023*

- Designed and implemented C++ algorithms to detect continuous contact regions in artificial knee joints, supporting biomechanical analysis and joint design optimization
- Built a C++ simulation model for railcar logistics, applying a constrained shortest path algorithm to optimize shipment routes and improve operational efficiency
- Developed a C++ solution for the Vehicle Routing Problem to automate the scheduling of freight railroad maintenance, enhancing resource allocation and reducing manual planning effort