Sean Liu

(470) 380-3706 | sliu750gt@gmail.com | linkedin.com/in/seanliu1 | seanliu9.github.io/home | US Citizen

Education

Georgia Institute of Technology — Atlanta, GA

Master of Science in Computer Science (GPA 3.9/4.0) — *August 2024 – December 2025*

Bachelor of Science in Computer Science, Minor in Economics (GPA 3.89/4.0) — *August 2021 – May 2024*

Experience

Graduate Teaching Assistant — August 2025 – Present

Georgia Tech College of Computing — *Atlanta, GA*

- Support professors in delivering the data and visual analytics (CSE 6242) course to 1,200+ students by writing and grading assignments and coordinating communication with students
- Conduct weekly office hours to provide guidance to students in data science skills and technologies, including data processing and visualization, big data tools, and machine learning

Software Engineering Intern — June 2025 – August 2025

Charles Schwab — *Lone Tree, CO*

- Built internal software to streamline AI-driven risk management workflows, reducing manual review time by 30% and ensuring regulatory compliance
- Developed automated pipeline for model reporting by integrating Python, SQL, and Azure AI, improving report generation time from hours to less than 5 minutes, while increasing consistency across 100+ models

Research Assistant — June 2024 – June 2025

Georgia Tech Financial Services Innovation Lab — *Atlanta, GA*

- Designed Python pipeline to aggregate and process thousands of financial texts and train a large language model, while supervising 20 research interns as graduate research assistant
- Analyzed the predictive and decision-making abilities of LLMs in financial contexts as volunteer research assistant

Researcher — August 2022 – December 2023

Georgia Tech Vertically Integrated Projects — *Atlanta, GA*

- Contributed to the Autonomous and Connected Transportation Driving Simulator project to design emerging transportation solutions for smart cities tested in 100+ simulated scenarios
- Optimized Python machine learning models that detect distraction and predict behavior from physiological data, boosting test accuracies from 60% to over 80% and improving road safety

Projects

Machine Learning Analysis of Urban Forests | *Python, TensorFlow, sklearn, Tableau*

- Implemented random forest and gradient boosting models to predict the conditions of urban forests and their impact on public health
- Created interactive visualizations displaying the health and diversity of trees in cities around the United States

Data Science for Real Estate | *Python, TensorFlow, sklearn*

- Implemented a random forest classifier to decide whether to rent a house and regression models to estimate the price of a house based on its features
- Applied k-means clustering and Gaussian mixture models to group houses by similar features, enabling similar home recommendations and helping sellers determine a suitable price range

Technical Skills

Languages: C/C++, Java, C#, Python, SQL, R, JavaScript, Go, HTML, Assembly, Stata, MATLAB, Mathematica

Frameworks: PyTorch, TensorFlow, scikit-learn, NumPy, Pandas, Matplotlib, Vertex AI, Streamlit, PySpark, AWS, Azure, Angular, .NET, Docker, Windows, Linux, Tableau, SQL Server, SQLite, MySQL, Access, Excel, Git, GitHub, Bitbucket

Concepts: Object-oriented programming, Data structures and algorithms, Artificial intelligence, Machine learning, Deep learning, Natural language processing, Computer vision, Data visualization, Cybersecurity, UI/UX