

AUSTIN LIU

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EDUCATION

Brown University

B.S. in Applied Math-Computer Science, B.A. in Economics

Providence, RI

2027 / **GPA 3.9**

- **Relevant Coursework:** Operating Systems, Machine Learning, Deep Learning, Data Structures and Algorithms, Statistical Inference, Applied Ordinary Differential Equations, Computational Probability

WORK EXPERIENCE

Symbotic

Software Engineer Intern

May 2025 - August 2025

Boston, MA

- Reduced **C#** API latency by **80%** by refactoring unbound queries into server-side execution, accelerating warehouse operations
- Ensured **99.95%** data integrity across **20M+ SKUs** by automating health checks, preventing critical fulfillment errors
- Eliminated **dozens of XML file errors per month** by deploying a centralized **C# WPF** application to **10+** warehouse sites, reducing downtime and simplifying configuration updates
- Decreased SQL query execution time by **60%** by converting full scans into index seeks using **SQL Sentry Explorer**

Helios Technologies

Software Engineer Intern

February 2025 - May 2025

Remote

- Reduced query latency by **40%** and improved retrieval accuracy by prototyping a self-hosted **GraphRAG** system using **Qdrant** and **Neo4j**
- Improved admin efficiency by **50%** by building a **React** moderation dashboard with virtualized lists to cut render time
- Ensured reliability for a production web app serving **1K+ active users** by maintaining **CI/CD pipelines** and QA processes
- Eliminated manual messaging operations by automating scheduled notifications with **AWS Lambda, SES, and CloudWatch**

PROJECTS

Guitar Tab Transformer | *React, Django, OpenCV, TensorFlow, Python*

June 2024 - Current

- Expanded usability of the **dadaGP Python package** for Guitar Pro files by adding support for single-track input and irregular tunings, enabling accurate transcription across diverse guitar formats
- Increased processing efficiency of sheet music through a **OpenCV-TensorFlow pipeline** to clean and analyze **5K+** images using morphological operations
- Achieved **95% accuracy** in notehead classification by training **TensorFlow CNNs** for binary detection of noteheads

Beya | *React Native, Firebase, Pinecone, AWS*

November 2024 - Current

- Streamlined cross-application workflows by engineering **Retrieval-Augmented Generation (RAG)** pipelines with **Pinecone** and **AWS DynamoDB**, enabling contextual retrieval at scale
- Generated **\$20K+ ARR** by developing a **React + AWS SaaS** adopted by **10+** clients for AI-powered workflow automation

LEADERSHIP

Family Head

Chinese Student Association

November 2024 - Current

Providence, RI

- Strengthened community support by mentoring **10** underclassmen, providing academic guidance and organizing team-building
- Increased student engagement by hosting **5+** cultural events (e.g., boba workshops, Lunar New Year dinners)

Backend Software Lead

Brown Formula Racing

September 2024 - Current

Providence, RI

- Led a backend team of **10 engineers**, leading design discussions, task delegation, and mentorship to accelerate feature delivery
- Improved development velocity by deploying **React and Django** web application to **AWS EC2** with automated **CI/CD pipelines**, contributing to a **Top 20 national finish**

SKILLS

Languages: Python, SQL, Java, C, C#, JavaScript/TypeScript, HTML/CSS

Technologies: React, Django, .NET, TensorFlow, OpenCV, Pandas

Databases/Cloud: Firebase, Amazon Web Services, Google Cloud Platform, MySQL, Pinecone

Interests: Fingerstyle Guitar, Brown Men's Volleyball, Steak and Sushi, Sports