AUSTIN LIU

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EDUCATION

Brown University — Providence, RI
B.S. in Applied Math-Computer Science, B.A. in Economics — *2027* | **GPA** *3.9*

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

WORK EXPERIENCE

Symbotic — May 2025 - August 2025
Software Engineer Intern — *Boston, MA*

- Optimized mobile application APIs by refactoring unbounded SQL queries, reducing query latency by **80%**
- Automated database health-check procedures to validate **20,000,000+** SKUs, maintaining data integrity at **99.95%**
- Developed **C# application** following strict object-oriented design, deployed across **10+ sites** nationwide

Helios Technologies — February 2025 - May 2025
Software Engineer Intern — *Remote*

- Prototyped **self-hosted GraphRAG** with vector and graph database, enabling faster and more accurate querying
- Built internal moderation tool with **1000+ entries**, using virtualized lists to optimize for low-latency updates
- Managed **AWS services** (Lambda, AppSync, DynamoDB) and performed QA for web app used by **1,000+** users

PROJECTS

Beya | *React Native, Firebase, Pinecone, AWS* — November 2024 - Current

- Engineered **RAG pipeline** leveraging **vector databases** to provide operational context across all workflows
- Generated **$20,000+** in annual recurring revenue through **SaaS** web solutions tailored for **10+** clients

Guitar Tab Transformer | *React, Django, TensorFlow, Python* — June 2024 - Current

- Collaborated with graduate researcher to develop a **transformer model** converting .mp3 files into **guitar tabs**
- Modified **dadaGP open-source package** to support single-track guitar input, and irregular tuning transposition
- Built **OpenCV–TensorFlow pipeline** to process **5,000+** music sheet images and to isolate noteheads
- Trained **CNNs** to identify noteheads (e.g. quarter, whole, half) and their pitches, achieving **95% accuracy**

LEADERSHIP

Family Head — November 2024 - Current
Chinese Student Association — *Providence, RI*

- Led family group of **10 underclassmen**, organizing academic support and social activities to strengthen mentorship
- Organized **5+ cultural events** (e.g., boba workshops, Lunar New Year dinners) to foster community engagement

Backend Software Lead — September 2024 - Current
Brown Formula Racing — *Providence, RI*

- Led team of **10 engineers**, facilitating design discussions, delegating tasks, and **mentoring underclassmen**
- **Top 20 nationally**, collaborating with driving and car subteams to define requirements and lead **agile sprints**

SKILLS

Languages: Python, C#, C/C++, Java, JavaScript/TypeScript, SQL, CSS, HTML
Frameworks: React, NextJS, Django, Flask, .NET, TensorFlow, OpenCV
Databases: MySQL, DynamoDB, Firestore, Pinecone, Qdrant, Neo4j
Cloud: Firebase, Amazon Web Services (AWS), Google Cloud Platform (GCP), Azure
Tools: Git, Docker, Hugging Face, Xcode, SQL Server Management Studio (SSMS), Postman
Interests: Fingerstyle Guitar, Brown Men's Volleyball, Steak and Sushi, Sports