

# 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, Foundations of AI, Data Structures and Design of Algorithms, Statistical Inference, Applied Ordinary Differential Equations, Computational Probability, Investments

## WORK EXPERIENCES

### Symbotic

May 2025 - Current

*Software Engineer Intern*

Wilmington, MA

- Managing **20,000,000+** inventory items in Walmart warehouse databases using **C#** and **MySQL**
- Implemented **health check procedures** to validate data integrity, sustaining error rates below **0.05%**
- Developed user-friendly **C# application** for label printer configuration, deployed across **10+ sites** nationwide

### Helios Technologies

February 2025 – May 2025

*Software Engineer Intern*

Remote

- Prototyped **self-hosted GraphRAG** with vector/graph database, enabling faster querying in **LLM workflows**
- 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**

### SAI (Study AI)

November 2024 – January 2025

*Software Engineer Intern*

Remote

- Integrated AI with **learning management systems** across **20+ universities**, enhancing studying engagement
- Optimized **RAG pipelines** using **React Flow**, enabling **diagram generation** for complex workflows

## PROJECTS

### Beya, Founding Software Engineer | React Native, Firebase, Pinecone, AWS

November 2024 - Present

- Developing custom **RAG** pipeline using **Pinecone** and **ChatGPT** to power **React CMS** for websites
- Generated **\$5,000+** in revenue through SaaS mobile **tap-to-pay** between popup vendors on college campuses
- Built internal analytics tool, tracking **1,000+ user events**, enabling insights to optimize **proprietary AI model**

### Pitch Detection and Notehead Detection in Sheet Music | OpenCV, TensorFlow

February 2025 - May 2025

- Processed **5000+ images** using **OpenCV** morphological operations, enabling efficient **feature extraction**
- Applied **watershed algorithm** to separate complex, closely related noteheads, enhancing segmentation reliability
- Trained binary-classification **CNNs** to identify noteheads (e.g. quarter, whole, half), achieving **95% accuracy**

### Find My Food | React, AWS, Flask, MySQL

January 2024 - May 2024

- Developed **dining hall menu tracking project** with **200+ monthly visits**, improving dining experience
- Decreased **AWS** expenses by **87.5%** through automation of **RDS instances**, and temporary **NAT gateways**

## LEADERSHIP

### Backend Software Architect

September 2024 – Present

*Brown Formula Racing*

Providence, RI

- Leading team of **10 engineers**, facilitating design discussions, delegating tasks, and **mentoring underclassmen**
- Managed **AWS** cloud infrastructure by implementing efficient **CI/CD pipeline** for automated **EC2** deployments
- Developed dashboard for visualizing **10,000+** vehicle telemetry points and tracking **1,000+** image-based issues

## SKILLS AND INTERESTS

**Languages:** Python, C#, C, C++, Java, JavaScript/TypeScript, SQL

**Tools:** GitHub, Firebase, Amazon Web Services (AWS), Google Cloud Platform (GCP), Azure, Hugging Face, MySQL

**Frameworks/Libraries:** React, React-Native, Expo, NextJS, Flask, Django NodeJS, Socket.IO, .NET

**Interests:** Fingerstyle Guitar, Brown Men's Volleyball, Food, Sports