

# Liheng Yuan

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## EDUCATION

### Northwestern University

B.A. Computer Science

GPA: 3.53/4.00

**Relevant Courses:** Design & Analysis of Algorithms, Database Systems, Operating Systems, Distributed Systems

Expected Graduation: Dec 2026

Evanston, IL

## EXPERIENCE

### TicketBarber

Software Engineer Intern

Apr 2025 – Present

Evanston, IL

- Integrated **Stripe Connect API** for multi-party payments between platform and organizers
- Implemented automated testing using **Playwright**, reducing testing cycle time by **90%**
- Built file processing features including PDF ticket generation with **PDFKit** and image uploads via **Firebase**
- Created real-time analytics dashboard with **SWR**, displaying revenue, ticket sales, and attendee metrics
- Optimized **Next.js/TypeScript** application performance by resolving **10+** critical bugs

### Develop & Innovate for Social Change

Software Engineer Intern

Jan 2025 – Jun 2025

Evanston, IL

- Built an inventory management system using **React/JavaScript** and **Java Spring Boot** for **50+** therapists
- Implemented a **PostgreSQL** database schema featuring **7** normalized tables to track **400+** inventory items
- Created authentication middleware using **Spring Security**, enabling secure user login and role-based access
- Developed UI with **Tailwind CSS** to support features like inventory search and budget visualization
- Containerized the application using **Docker**, eliminating **95%** of environment-related conflicts

### P.A.T.H.

Software Engineer Intern

Jan 2025 – Mar 2025

Evanston, IL

- Deployed AI model using **Python** and **Django**, making AI-generated meal suggestions accessible for **4000+** users
- Utilized **MongoDB** to store AI-generated responses, ensuring users receive consistent personalized results

## PROJECTS

### NoteBridge - Connecting Students to Music Instructors | *Java Spring Boot, MySQL, Redis, Firebase*

- Built an application to help Northwestern music students advertise lessons and connect with interested peers
- Used **MySQL**, **Redis**, and **Firebase** to manage user data, lesson listings, and image storage
- Implemented secure authentication and role-based access control using **Spring Security**

### Illinois Restaurant Compliance Analyzer | *AWS EMR, AWS S3, Apache Spark, Python*

- Engineered a big data processing pipeline to identify restaurant health code violations across Illinois
- Leveraged **AWS EMR**, **Apache Spark**, and **Python** to analyze inspection and violation datasets
- Created client-side application using **AWS SDK**, implementing status tracking that handles pending results

### BuildPilot - AI Agent Project | *Python, Gemini API, FAISS, Django*

- Crafted an AI Agent using **Python** and **Gemini API** to recommend personalized project ideas and tech stacks
- Integrated **NLP** to interpret open-ended user prompts and **FAISS** for efficient semantic search
- Wrapped the AI agent in a **Django** backend to expose model capabilities through a web interface

### RustyDB - Database Systems Project | *Rust*

- Constructed a relational database management system in **Rust**, focusing on memory-safety
- Built a storage engine with **buffer pool manager**, **LRU-K page replacement**, and **disk manager**
- Engineered **SQL operators** including filters, joins, and aggregations to process queries over relational data

## TECHNICAL SKILLS

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

**Frameworks & Libraries:** Spring Boot, React, Express, Next.js, Vue.js, Angular, TailwindCSS, Flask, Django, Docker

**Others:** Redis, RabbitMQ, Node.js, PostgreSQL, MySQL, HTML, CSS, Git, Github, AWS, Azure, Firebase