

James Liu

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EDUCATION

B.S. in Computer Science, Oregon State University

Expected Dec 2025

• *GPA: 3.8*

B.F.A. in Art & Technology, School of the Art Institute of Chicago

Chicago, IL

EXPERIENCE

Co-Owner / Founder

Spring 2018 – Winter 2022

The Plantier, Chicago IL

- Scaled a rare tropical plant import/export business from \$10K initial investment to over 7-figures in revenue
- Developed an instagram account to 15,000+ followers with over 60,000 unique transactions through both internet and in-store sales
- Led international supply chain operations, vendor negotiations, and customer relationship management across multiple markets
- Negotiated business acquisition and exit after 4 years of operation

PROJECTS

S&P 500 Cross-Sectional Dispersion Algorithm | *C++, Python, JSON, Hetzner Cloud*

[Jupyter Notebook](#)

- Designed a data processing pipeline on Hetzner Cloud to collect and analyze minute-by-minute data for all 2800 stocks on the NYSE & 3700 stocks on the Nasdaq exchange
- Implemented a RESTful API to communicate between analysis on Python and trade execution in C++
- Deployed the algorithm with a Chicago-based proprietary trading firm on Q3 2024

Processing Visual Art RAG App | *Python, OpenAI API, MongoDB*

Ongoing

- Developed web scraping pipeline to collect and clean 1000+ documents from Processing documentation, forums, and community resources
- Engineered document preprocessing system with text splitting and embedding generation for vector storage
- Implemented MongoDB Atlas vector database for semantic search capabilities, laying groundwork for RAG architecture

AQI Display | *Python, PyObjC, SQLite, AppKit Framework*

[GitHub](#)

- Developed native macOS menu bar application that provides up to 10+ air quality & pollutant metrics
- Implemented SQLite-based data management system for 24-hour historical tracking for user's environmental exposure.

Food Good | *React Native, TypeScript*

[GitHub](#)

- Built a React Native mobile app that recommends cooking recipes by tracking user ingredients with real-time filtering and sorting algorithms
- Implemented offline-first design with event-driven recommendation system using AsyncStorage for local data persistence

TECHNICAL SKILLS

Programming Languages: Python, C++, Java, Processing, JavaScript, TypeScript, SQL

Web Technologies: React, React Native, Node.js, Flask, FastAPI, REST APIs, WordPress

Databases & Storage: PostgreSQL, SQLite, MongoDB, AsyncStorage

Cloud & DevOps: Hetzner Cloud

Data Science & Analytics: pandas, NumPy, Matplotlib, Polars, Seaborn

RELEVANT COURSEWORK

Core: Data Structures & Algorithms, Discrete Structures, Computer Architecture & Assembly

Software Engineering: Web Development, Database Systems, Agile Software Engineering