

# Hsiang Yu Huang (Anna)

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## EDUCATION

### Boston University

*Master of Science in Data Science | GPA: 3.59 / 4.0*

Boston, MA

Dec. 2025

**Relevant Courses:** Deep Learning, Graduate Databases, Data Engineering, Time Series, Artificial Intelligence, Crypto

### National Taiwan University of Science and Technology

*BBA in Industrial Management and Bachelor Program of Finance, Minor in Computer Science | GPA: 3.85 / 4.3*

Taipei, Taiwan

Jun. 2023

**Relevant Courses:** Algorithms, Machine Learning, Data Analytics, Statistics, Object-Oriented Programming

## SKILLS

- **Languages & Frameworks:** Python, SQL, C++, TypeScript, JavaScript, R, FastAPI, Next.js, Node.js, Flask, React, HTML/CSS
- **Cloud & DevOps:** AWS (Lambda, S3, EC2), Azure, PostgreSQL, MongoDB, Docker, Linux, Nginx, CI/CD, Git
- **Data Engineering & Tools:** PySpark, ETL Pipeline Automation, SQL Database Design, Azure Synapse, PostHog, Power BI
- **AI Engineering & ML:** LangGraph, LangChain, MCP, PyTorch, TensorFlow, Scikit-Learn, Pandas, NumPy, NLP, Time Series

## WORK EXPERIENCE

### Full Stack Developer – [Citale](#) ([citaleco.com](http://citaleco.com))

Boston, MA

*BU Spark! Launch Lab (Stipend) | Stack: Next.js, SQL, Supabase, Google Maps API, Vercel, PostHog*

Sep. 2024 – Present

- Recruited to the engineering team of a BU Spark! incubated startup, earning a \$500 stipend for contributions.
- Designed **PostgreSQL database schemas** and Implemented backend data retrieval and real-time map features using **Next.js, Supabase, and Google Maps API**.
- Successfully launched the MVP to production, serving **200+ unique users** and utilizing **PostHog** for analytics.

### Research Assistant – [LLM Platform](#)

Boston, MA

*BU BIT Lab (Unpaid) | Stack: FastAPI, Next.js, MongoDB, LangGraph, Prompt Engineering, OpenRouter, MS Clarity*

Sep. 2025 – Present

- Architected a **RESTful API using FastAPI** to orchestrate a **LangGraph multi-agent system**, managing asynchronous communication between Coordinator, Writer, and Reviewer agents.
- Designed a **MongoDB schema** to store complex conversation history and retrieval contexts, ensuring efficient data persistence for the multi-model console.

### Research Assistant – Machine Learning for Sales Forecast

Taipei, Taiwan

*NTUST Artificial Intelligence and Decision Analysis Lab | Stack: R, XGBoost, Time Series Analysis*

Nov. 2023 – Jul. 2024

- Built an **ARIMA–XGBoost** forecasting pipeline, boosting predictive accuracy ( $R^2$ ) from **8.3% to 73.4%**.
- Developed a **conditional rolling window model** to enable adaptive, real-time predictions.

### Research Assistant – Smart Vending Machine Optimization

Taipei, Taiwan

*NTUST Decision Analysis and Applied Statistics Lab | Stack: R, K-means Clustering, Decision Trees*

Apr. 2023 – Sep. 2023

- Clustered product sales with **K-means** using metrics like mean, CV, and revenue to optimize stocking.
- Built a **classification tree** to identify product-shelf performance patterns and deliver actionable insights.

## PROJECTS

More Projects are available here: [hsiangyuhuang.com/projects](http://hsiangyuhuang.com/projects)

### From Tweets to Trends – [Predicting Stock Volumes Using X Sentiment](#)

Boston, MA

*Course: Big Data Engineering | Stack: Azure Functions (Python), ADLS Gen2, Rapid API*

Feb. 2025 – May. 2025

- Leveraged **Azure Functions (Timer Trigger)** to establish **Cron-based automation** for the daily ingestion of social media streams from X (Twitter).
- Executed the **Extract & Transform (ETL)** process using **Python** to parse raw JSON data, converting unstructured logs into analysis-ready formats.

### Winner – DS+X Hackathon 2025 (Best Overall, HackBU 1st)

Boston, MA

*BU Spark! | Stack: Python, FastAPI, OpenAI API, OpenAlex API*

Oct. 2025

- Engineered the backend for **RhettSearch**, an interactive research gamification platform driven by AI.
- Orchestrated a **RAG pipeline** that retrieves literature via **OpenAlex API** and synthesizes insights using **OpenAI API**.
- Designed structured **RESTful APIs** to parse complex JSON citation data, ensuring serialization for frontend integration.