Hsiang Yu Huang (Anna)

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EDUCATION

Boston University — Boston, MA
Master of Science in Data Science | GPA: 3.59 / 4.0 — *Dec. 2025*

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

National Taiwan University of Science and Technology — Taipei, Taiwan
BBA in Industrial Management and Bachelor Program of Finance, Minor in Computer Science | GPA: 3.85 / 4.3 — *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 (Functions, ADLS), PostgreSQL, MongoDB, Supabase, Docker, Linux, Nginx, CI/CD, Git
- **AI Engineering & ML:** LangGraph, LangChain, MCP, PyTorch, TensorFlow, Scikit-Learn, Pandas, NumPy, NLP, Time Series Analysis
- **Data Engineering & Tools:** PySpark, ETL Pipeline Automation, SQL Database Design, Azure Synapse, PostHog, Power BI, Communication

WORK EXPERIENCE

Full Stack Developer – Citale (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 development 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 user analytics.

Research Assistant – LLM Platform — Boston, MA
BU BIT Lab (Unpaid) | Stack: FastAPI, Next.js, MongoDB, LangGraph, Prompt Engineering, Railway, 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

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 efficient serialization for frontend integration.