Hsiang Yu Huang (Anna)

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SUMMARY

Data Science graduate student at Boston University with hands-on experience in machine learning, data engineering, and full-stack development. Strong background in Python, SQL, and Azure cloud pipelines. A collaborative problem-solver passionate about turning data into actionable insights and scalable systems.

EDUCATION

Boston University Boston, MA

Master of Science in Data Science | GPA: 3.57 / 4.0 | Expected Dec. 2025

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

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

WORK EXPERIENCE

Full Stack Developer – Citale Boston, MA

BU Spark! Launch Lab *Jan. 2025 – May. 2025*

- Selected for BU Spark! Launch Lab's Volunteer Track, receiving a $500 stipend for prototype development.
- Built a Boston-based social platform enabling event discovery and local networking.
- Developed frontend in React and backend logic in SQL, integrating Google Maps API for event visualization.
- Collaborated with a cross-functional team to achieve milestone deliverables and usability improvements.

Research Assistant – Machine Learning for Sales Forecast in Graphic Card Manufacturing Taipei, Taiwan

NTUST Artificial Intelligence and Decision Analysis Lab *Nov. 2023 – Jul. 2024*

- Built an ARIMA–XGBoost forecasting pipeline, boosting R^2 from 8.3% to 73.4%.
- Developed a conditional rolling window model for adaptive, real-time predictions.
- Supported procurement and inventory planning using data-driven sales insights.

Research Assistant – Smart Vending Machine Shelf Optimization Taipei, Taiwan

NTUST Decision Analysis and Applied Statistics Lab *Apr. 2023 – Sep. 2023*

- Clustered product sales with K-means using metrics like mean, CV, revenue, and unit price.
- Built a classification tree to identify product-shelf performance patterns by price segment.
- Delivered actionable recommendations to improve shelf planning and profit optimization.

PROJECTS

Efficient Open-Vocabulary Models for Low-Power Computer Vision (LPCV Competition) Boston, MA

Course: Deep Learning *Feb. 2025 – May. 2025*

- Optimized X-Decoder using DyT, SwiGLU, and linear attention to reduce inference cost.
- Evaluated on COCO and RefCOCOg datasets to align segmentation performance with low-power device requirements.
- Explored transformer block variants, achieving a 7.5% GPU usage reduction and improving segmentation accuracy from 17 to 22 mIoU.

From Tweets to Trends – Predicting Stock Volumes Using X Sentiment Boston, MA

Course: Big Data Engineering *Feb. 2025 – May. 2025*

- Built a real-time pipeline to forecast NVIDIA's stock volume using sentiment data from tweets.
- Leveraged Azure Synapse, RapidAPI, and Power BI in a Medallion Architecture framework.
- Connected social media signals with trading behavior for adaptive forecasting and risk analysis.

Equity in Federal Budget Earmarking Processes Boston, MA

Course: Tools for Data Science *Sep. 2024 – Dec. 2024*

- Extracted and cleaned earmark funding data from Senate PDFs using Python (Camelot).
- Merged Census race and income data to analyze demographic equity in federal funding allocations.
- Built an interactive dashboard in Looker Studio to visualize funding disparities across U.S. states.

Modeling Power System Frequency Regulation Reserve Trading Volume Taipei, Taiwan

NTUST Decision Analysis Lab *Sep. 2021 – May. 2022*

- Forecasted electricity demand using SARIMAX and Backpropagation Neural Networks (BPN), achieving 69.4% accuracy.
- Identified time-based and holiday-driven consumption patterns for grid optimization.

ADDITIONAL EXPERIENCE

Research Volunteer – Boston University BIT Lab (Business Insights through Text) Boston, MA

Aug. 2025 – Present

- Participating in ongoing research on Generative Engine Optimization and Marketing Science under the supervision of Prof. Dokyun Lee.
- Conducting literature reviews on AI-driven consumer behavior, digital marketing, and industry applications.
- Preparing to contribute to forthcoming empirical studies on generative AI and marketing analytics.

SKILLS

- **Programming & Tools:** Python, SQL, R, C++, JavaScript, React, Git, Linux, HTML/CSS
- **ML & Analytics:** PyTorch, TensorFlow, Scikit-Learn, Pandas
- **Database & Cloud:** Azure, Supabase
- **Visualization & Design:** Power BI, Looker Studio, Photoshop, InDesign