Chakrayuddh Kimsovanna

Graduate Student | Data Analytics | Finance & Economics Research | R, Python, SQL
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Graduate student in Social Data Analytics with a passion for programming, finance, economics and public policy. Eager to apply data-driven skills in real-world research and business contexts.

EDUCATION

The University of Texas at Dallas January 2025 – December 2026
- *Masters of Science, Social Data Analytics and Research* **GPA 4.0**

The University of Texas at Dallas August 2020 – December 2024
- *Bachelor of Science, Economics,* Minor: International Political Economy **GPA 3.781**

The University of Texas at Austin September 2023 – May 2024
- *Post-Graduate Program, Data Science and Business Analytics* **GPA 4.33**

ACADEMIC PROJECT EXPERIENCE

Knowledge Mining H-1B Trends in U.S. Financial Sector via NLP & BERT March-May 2025
- Processed and filtered USCIS and DOL H-1B petition data from 2016 to 2024 to isolate finance-related job titles using R (readxl, dplyr, janitor) and
- Used reticulate to run Python's sentence-transformers from R and generated BERT-based embeddings (MiniLM-L6-v2) for semantic clustering
- Applied KMeans clustering to group job titles into 8 distinct finance categories and visualized trends with bar charts and word clouds
- Revealed shifting employer demand across different finance subfields and the impact of Trump and Biden policy changes on visa approval patterns

Designing a Database Application for Cambodia's FDI & Trade Data March-May 2025
- Built a relational SQL database with PostgreSQL and SQLite using data from Open Development Cambodia and World Bank WITS
- Developed an interactive Shiny dashboard via R with Leaflet maps and pie charts to visualize foreign direct investments by province, sector and investor country
- Handled many-to-many relationships using SQL joins and junction tables to connect projects with multiple countries, companies and provinces
- Published a functional web app to reveal key investment and trade patterns shaping Cambodia's economy

S&P 500 Tech Sector Revenue Forecasting May 2024
- Worked collaboratively in a team of 4 to analyze how macroeconomic factors (GDP, investment, interest rates, unemployment) influence revenue growth of leading S&P 500 tech companies
- Contributed to data preprocessing and regression modeling in R; created visualizations using ggplot2 and broom to support interpretation
- Identified private investment as the most consistent predictor of revenue growth and presented findings in the final class showcase, earning positive feedback for clarity, insight, and relevance to current economic conditions

Trade & Ahead: Unsupervised Learning of NYSE Stock Behavior for Investment Strategy April – May 2024
- Clustered NYSE stock data using KMeans in Python to identify financial indicator patterns like volatility, price range, and market cap
- Delivered clear group-level insights that improved understanding of stock group behavior and informed portfolio risk management strategies

Re-Cell: Supervised Learning for Predicting Resale Prices of Consumer Electronics January – February 2024
- Built a regression model in Python using scikit-learn and pandas to predict resale prices of tablets and phones using product condition, brand, and storage size
- Identified key price drivers and supported the development of a more competitive and data-informed pricing strategy

ADDITIONAL INFORMATION

Technical Skills: Python, R, SQL, Stata; Shiny, Quarto, YAML, Markdown, PostgreSQL, Scikit-learn, Pandas, NumPy, ggplot2, KMeans, sentence-transformers (BERT), DBI, dplyr, reticulate, Torch, Luz, NLP
Productivity Tools: Excel, Word, PowerPoint (Microsoft Office); Docs, Slides, Sheets (Google Workspace)
Soft Skills: Analytical thinking, attention to detail, critical thinking, leadership, adaptability, communication, teamwork, independent problem-solving, time management, task prioritization