Tony Liao

Economics & Computer Science · University of Chicago
732-429-7563 | tonyl@uchicago.edu

Education

University of Chicago Chicago, IL
B.A in Economics & Computer Science Expected, May 2025
GPA: 3.70/ 4.00
Relevant Coursework: Big Data, Machine Learning, Econometrics, Quantitative Portfolio Management & Algorithmic Trading

Experience

Gallus Insights LLC Chicago, IL
Data Science Intern *June 2024 - August 2024*
- Owned and developed a forecasting product using neural networks to predict mortgage pipelines, improving projection accuracy by 20%
- Presented root-cause analyses on clients' regulatory and compliance issues, facilitating targeted audits
- Wrote Python scripts to ingest data from internal paging API, performing data cleaning and transformation for analysis
- Facilitated the migration of clients from their legacy BI tools to our platform by replicating key visualizations and performing validation tests

Extracurricular Activity

UChicago Institute of Politics (TechTeam) Chicago, IL
Volunteer Data Analyst *July 2024 - August 2024*
- Led a team in evaluating the social impact of a nonprofit client's program, resulting in client reevaluating their strategy
- Ran statistical tests to assess program participants' social mobility, using zip-code level income as proxies for outcome
- Developed a web-based BI dashboard tool that enabled organizations to explore data independently

UChicago Economics Department (Voltage Lab) Chicago, IL
Research Assistant *October 2023 - May 2024*
- Researched literature on the effects of higher order beliefs on cognitive biases
- Wrote R code to clean and create summary graphs of 200+ Qualtrics responses to survey questions
- Implemented BS4 web scraping to collect and standardize 50,000+ records from online sources

Projects

Daily News for Stock Market Prediction
- Analyzed the relationship between news headlines and stock price movements using 73,606 Reddit World News headlines and Dow Jones Industrial Average data
- Conducted regression analysis, FDR, LASSO, and bootstrapping to identify words predictive of stock returns and volatility
- Isolated the causal impact of previous day's volatility on current volatility through double LASSO

Project Alpaca
- Wrote a trading algorithm using Alpaca API, using machine learning for generating buy and sell signals.
- Conducted backtesting to optimize model parameters and automated data retrieval and storage in CSVs

Global Diplomatic Network and International Ideological Clustering
- Utilized PCA and LASSO to explore key factors behind the voting behaviors of United Nations member states in the past 30 year

Skills

Programming	C · Python · Kotlin
Analytics	SQL · Thoughtspot · Excel/ VBA · R
Tools	HTML/CSS/Javascript · AWS · MongoDB · Docker · Quarkus · Jetpack Compose