Tianyao Deng

Chapel Hill, NC | https://tianyaodeng.github.io/web | tdeng@unc.edu

Education

University of North Carolina at Chapel Hill   Aug 2020 -- May 2026 (Expected)

     Ph.D. in Economics | Focus: Financial Econometrics, Time Series, Volatility, Correlation

University of California, Berkeley   Aug 2017 -- May 2019

     B.A. in Economics | GPA: 3.778/4.0 (*with Distinction, top 10%*)

Santa Monica College   Aug 2015 -- May 2017

     Transfer program | GPA: 4.0/4.0

Experience

University of North Carolina at Chapel Hill   Aug 2020 -- present

     Graduate Researcher & Teaching Assistant | Econometrics, Time Series

Illinois State University   Aug 2019 -- May 2020

     Research Assistant | Economics

Research & Quantitative Projects

- *Intraday Dynamics of Market Correlation and Impact of Macroeconomic Announcements (Job Market Paper)*

  Propose a novel quadrant-based correlation measure for stock price co-movement. Apply the new method to ultra-high frequency financial data to examine intraday dynamics of stock price co-movement, including pre-market and post-close trading sessions. Analyze how macroeconomic announcements affect the dynamics of stock price co-movement.

- *A Score-Driven Model for Market Correlation (work in progress)*

  Design and implement a score-driven (GAS) model for intraday market correlation dynamics.

- *Intraday Price Discovery of Bitcoin between Binance U.S. and Coinbase (2023)*

  Apply cointegration-based price discovery models to measure exchange level impact (Binance U.S. vs. Coinbase) on the intraday efficient price dynamics of Bitcoin.

Skills

Tools: Python (NumPy, pandas, SciPy), R, SQL, Linux, LaTeX, Excel, PowerPoint, Word

Machine Learning & Quantitative Methods: probabilistic time-series modeling, forecasting, econometrics, statistical modeling, score-driven (GAS) models, state-space style dynamics, high-dimensional covariance and correlation modeling, PCA/factor analysis

Finance & Market Microstructure: volatility and correlation modeling, systematic and correlation risk, portfolio and factor analysis, high-frequency data analysis, intraday market dynamics

Behavioral: teamwork, communication, presentation, time management, adaptability

Languages: Chinese (Mandarin and Cantonese), English

     References available upon request.