Yi Cui

Homepage, GitHub, LinkedIn

Email : cy15307130001@gmail.com
Mobile : +1-984-322-1292

Education

- **University of North Carolina at Chapel Hill (Ph.D. in Econometrics and Statistics)** — Chapel Hill, NC
  Research field: Causal Inference, Econometrics (Forecasting), Machine Learning and Deep Learning — *Sep 2020 - Now*
- **Fudan University (Bachelor of Arts, Economics)** — Shanghai, China
  Graduated with Distinction, Outstanding Graduate Student (top 1%) — *Sep 2016 - Jul 2020*
- **University of California, Los Angeles (Exchange Student, UCEAP program)** — Los Angeles, CA
  Santander Scholarship (top 1%), Graduate Honor Course: MAE 271A (A) — *Sep 2017 - Dec 2017*

Working Paper (Google Scholar)

1. **Yi Cui**, Yao Li, Jayson R. Miedema, Sharon N. Edmiston, Sherif W. Farag, James S. Marron, Nancy E. Thomas. *Region of Interest Detection in Melanocytic Skin Tumor Whole Slide Images - Nevus and Melanoma.* NeurIPS 2022 Workshop on Medical Imaging, Cancers 16(15), 2024. [Abstract][Paper][Codes]
2. Andrii Babii*, **Yi Cui***, Thomas Walther*. *Macroeconomic Determinants of Realized Volatility - A Machine Learning Approach*, Working paper, 2024. (*equal contribution)
3. Désiré Kédagni, Huan Wu, **Yi Cui**. *Robust Identification in Randomized Experiments with Noncompliance*, Working Paper, 2025. [Poster][Paper]

Work Experience

- **Amazon** — Bellevue, WA
  Research Scientist Intern: SCOT Topline Forecast — *May 2024 - Aug 2024*
  - **Tasks**: Studyed causal effects of speed on average selling price (ASP); used zip code level data to examine YoY correlations between different speed metrics and ASP in US AFN; applied the Bayesian VAR module to estimate effects on ASP rate and mix; implemented recursive assumption, sign restriction and heteroskedasticity on identification; estimated time-varying elasticities during major holidays (e.g., Christmas) and more price-sensitive around major sales
- **Techfin.AI and Super Quantum Fund** — Shenzhen, China
  Quantitative Research Intern — *Dec 2023 - Feb 2024*
  - **Tasks**: Replicated and comprehensively enhanced key reports and academic papers related to amplitude in the stock market; introduced techniques such as Principal Component Analysis (PCA) to merge factors, optimizing the representation of underlying data structures; implemented LASSO penalty methods for tuning hyperparameters; utilized advanced machine learning techniques (NLP) to identify and evaluate factors contributing to asset pricing dynamics and forecasting
- **Kenan Institute of Private Enterprise** — Chapel Hill, NC
  Data Scientist Intern — *Jun 2022 - Sep 2022*
  - **Tasks**: Worked on an economic indicators project with mixed-data sampling (MIDAS) regression; merged data from Haver and constructed a database; finished the combined statistical area (CSA) level economic indicators from the county level, like real GDP, employment, population and so on; optimized the MIDAS algorithm and accomplished the forecasting tasks

Research Experience

- **University of North Carolina at Chapel Hill** — Chapel Hill, NC
  Research Assistant, Forecasting and NLP — *Apr 2022 - Apr 2023*
  - **Tasks**: Worked on a financial econometrics project to answer the question of what drives stock market volatility; proposed a new model (HLM) for predicting realized volatility; the proposed model performed reasonably well against a large set of alternative models for 31 stock markets; investigated the time-variation of predictors for the realized volatility of the S&P 500

Patents / Projects / Honors

- Yi Cui, National Patent S & F, First Inventor Health detector based on intelligent mobile terminal — Feb 2019/Nov 2019
  IPC Classification Number: A61B5/00 and A61B5/00, Patent Number: CN209611107U and CN109316169A
- Project: Predicting the survival of patients, STOR 565: Advanced Machine Learning [Project] — Jun 2021
- Project: Mechanism Design, Land Redevelopment Problem [Slides] — Jun 2019
- Project: The Mathematical Contest in Modeling, MCM/ICM: Honorable Mention [Project] — Jan 2018
- NABE Scholar; Summer Research Fellowship; Award of Excellent Student, First Prize Scholarship (top 1%); Second Prize in National Mathematical Modeling (CUMCM) (top 1%); Third Prize in Computer Programming Contest, Fudan University (top 5%); Silver Medal of National Mathematics Competition (top 1%); Morgan Stanley Investment Banking Early Insight Workshop Trainee, Goldman Sachs: GS Scholar Program Trainee — 2016 - 2024

Skills

Technical Skills: Proficient in MATLAB, Python (Pytorch), R, C/C++, LaTeX, and Julia
Fluent in English and Mandarin; CET-4: 667; CET-6: 600, TOEFL Writing: 30/30, IELTS: 7.0, GRE Math: 170/170