

# Yi Cui

Homepage, GitHub, LinkedIn

Email : yicui@unc.edu

Mobile : +1-984-322-1292

## EDUCATION

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- **University of North Carolina at Chapel Hill (Ph.D. in Econometrics and Statistics)** Chapel Hill, NC  
GPA: 4.0/4.0 (H), Research field: Causal Inference, Applied Econometrics and Deep Learning Sep 2020 - Now
  - **Fudan University (Bachelor of Arts, Economics)** Shanghai, China  
GPA: 3.5/4.0 (top 15%), 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)

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1. **Yi Cui**, Yao Li, Jayson Miedema, Sherif Farag, Sharon N. Edmiston, J.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*, under review: Nature: Modern Pathology, 2023. [Abstract][Codes]
  2. Andrii Babii\*, **Yi Cui\***, Thomas Walther\*. *Macroeconomic Determinants of Realized Volatility*, Working paper, 2023. (\*equal contribution)
  3. **Yi Cui**, Désiré Kédagni. *Local Average Treatment Effect without monotonicity*, Working paper, 2023.

## WORK EXPERIENCE

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- **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 forecasts
  - **China International Capital Corporation (CICC)** Shanghai, China  
Summer Project Intern, Fund of Funds (FOF) Jul 2018 - Oct 2018
    - **Tasks:** Automated quantitative analytics; built local fund database by migrating data from third-party databases; conducted correlation analyses of different fund types/strategies; reduced manual work and shortened operation time from 3 hours to 10 minutes, by automating file reading process and replacing redundant VBA modules with efficient python codes

## RESEARCH EXPERIENCE

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- **University of North Carolina at Chapel Hill** Chapel Hill, NC  
Research Assistant Apr 2022 - Now
    - **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

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- 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 Jun 2021  
Final project in Machine Learning (UNC): predicted the survival of patients with heart failure
  - Project: Mechanism Design, Land Redevelopment Problem Jun 2019  
Worked on a mechanism design, auction and non-convex optimization project [Slides]
  - Project: The Mathematical Contest in Modeling, MCM/ICM: Honorable Mention Jan 2018  
Modeled change of language speakers of the first order (native), second order (or more), and total
  - Award of Excellent Student, First Prize Scholarship (top 1%) 2017 - 2019
  - Second Prize in National Mathematical Modeling (CUMCM) (top 1%) 2017 & 2019
  - Third Prize in Computer Programming Contest, Fudan University (top 5%) 2019
  - Silver Medal of National Mathematics Competition (top 1%) 2018
  - Morgan Stanley Investment Banking Early Insight Workshop Trainee, Goldman Sachs: GS Scholar Program Trainee 2018

## SKILLS

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**Technical Skills:** Proficient in MATLAB, Python (Pytorch), R, C/C++,  $\text{\LaTeX}$ , and MS Office

Fluent in English and Mandarin; CET-4: 667; CET-6: 600, TOEFL Writing: 30/30, IELTS: 7.0, GRE Math: 170/170