Ryan Huang
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EDUCATION

University of North Carolina at Chapel Hill, Chapel Hill, NC
BS/BA, Computer Science & Economics; GPA: 3.79   Expected May 2025

Relevant Coursework: Multivariable Calculus, Data Structures and Analysis (Java), Differential Equations, Discrete Mathematics, Econometrics, Financial Accounting, Foundations of Programming (Python), Linear Algebra, Intermediate Microeconomics, Intermediate Macroeconomics, Systems Fundamentals (C), Introduction to Probability and Statistics

RESEARCH EXPERIENCE

University of North Carolina at Chapel Hill, Department of Economics
Undergraduate Research Assistant, February – July 2023
Advisors: Professor Jiayi Bao, Miaomiao Zhang
Developed an efficient method utilizing Python to scrape data from The Wayback Machine, and then employed NLP techniques to categorize autonomous vehicle (AV) startup companies worldwide. For feature extraction, diverse methods were introduced, encompassing Bag of Words, TF-IDF, and Word Embeddings. Clustering procedures were streamlined through unsupervised methods, integrating PCA for dimension reduction and K-Means for effective clustering. Advanced data preprocessing techniques were implemented, involving elimination of punctuation and stop words, normalization through stemming/lemmatization, and adept tokenization. Leveraging the OpenAI API, the aim was to assign these companies to specific categories based on characteristics extracted from their website texts dating back to inception. Advanced topic modeling algorithms (LDA or BERTopic) were also presented, underscoring interpretation and cluster nomenclature. An overview of supervised text classification was also provided, with steps covering data preparation, model selection/training, and comprehensive evaluation, contributing to the precision of the project. Model selection encompassed researching algorithms such as Logistic Regression, Naïve Bayes, SVM, Random Forest, or Deep Learning models (like BERT). Additionally, conducted basic regression analysis to explore the impact of policy dynamics on the entry of startup enterprises. Found that companies mainly fit into three main categories of sensor technology, robotics, and vehicles.

University of North Carolina at Greensboro, Department of Accounting and Finance
Research Assistant, August 2022 – Present
Advisor: Professor Dayong Huang
Meticulously refined and organized datasets related to names and companies within FEC data primarily using Pandas. Pioneered the development of an innovative metric, calculating political inclinations by normalizing the difference between contributions to Democrat and Republican candidates against the total amount donated by each individual, spanning a comprehensive timeline from 2000 to 2021. Furthermore, successfully extracted and identified over 1500 hedge fund managers and 20,000 executives from supplementary datasets provided by the advisor, greatly enriching the scope of the project and laying a robust foundation for prospective personal research pursuits.

PRESENTATIONS

2023 IDEAL Get Ready for Research Workshop, Chicago, IL, June 2023. Huang, R; Ecsedy, B; Shah, M; Engstrom, J. "Causal Inference for Policy Evaluation during COVID-19 using Neural Networks" (lecture).

LEADERSHIP/SERVICE

Leukemia and Lymphoma Society
Student of the Year Candidate (Team Leader), June 2021 – April 2022
Raised over $10,000 over a four month period implementing a comprehensive fundraising strategy, including outreach to potential corporate donors. Organized events in the community to fundraise locally with a 5k run and bake sale. Utilized various marketing and graphics methods to promote fundraising efforts and engage with supporters

MEMBERSHIP

Carolina Analytics & Data Science, University of North Carolina at Chapel Hill (2022–Present)
Carolina Economics Club, University of North Carolina at Chapel Hill, Member (2022–Present)
Symphony Band, University of North Carolina at Chapel Hill, Trumpet (2022–Present)
UNC Finance Society, University of North Carolina at Chapel Hill (2023–Present)

AWARDS, HONORS, AND GRANTS

Phi Beta Kappa (2023)
Dean's List (2022 – Present)

TECHNICAL SKILLS

Computational: C, CSS, HTML, Java, JavaScript, Linux, MATLAB, Microsoft Office Suite, Python, R, SAS, Stata, Tableau, TensorFlow

LANGUAGES
Chinese (working proficiency)
English (fluent)