

Jack Mannion

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EDUCATION

University of California, Berkeley

May 2023

GPA: 3.73

- Bachelor of Arts in Economics
- Intended minor in Data Science
- **Honors:** Dean's List Spring 2021
- **Completed Coursework:** Econometrics, Financial Economics, Macroeconomic Theory, Microeconomic Theory, Multivariable Calculus, Foundations of Data Science, Computational Structures in Data Science, Introduction to Probability and Statistics
- **Current Coursework:** Linear Algebra and Differential Equations, Techniques of Data Science, Macroeconomic Policy, Topics in Economic Research

RESEARCH EXPERIENCE

University of California, Berkeley

Berkeley, CA

Undergraduate Research Associate

September 2021-Present

- Worked with two UC Berkeley Economics Ph.D. students to research the impact of forecast bias from large private banks and international institutions like the IMF on capital flows to developed and emerging markets
- Built a dataset of over two million unique data points coming from economic forecasts made by both private forecasters and institutions from 2004-2017 using Python and Excel VBA
- Utilized STATA and Python (Pandas and Numpy) to further organize data in an easy-to-analyze format, create visualizations of the data, and run a preliminary time series analysis of the data
- Ran a variety of different simple regressions to attempt to establish a causal relationship between a country's forecast error in a specific quarter and that country's respective net lending value.

WORK EXPERIENCE

Currency Exchange International

Berkeley, CA

Currency Exchange Teller

February 2020 - July 2020

- Oversaw the accurate exchange, by hand, between over 80 on-hand worldwide currencies and the United States Dollar (e.g. Canadian Dollar, Iraqi Dinar, Vietnamese Dong)
- Showed trustworthy decision-making skills by ensuring the safe keeping and accurate inventory of a large amount of domestic and foreign currency both in a register and a safe
- Displayed strong communication skills by contacting customers on the telephone with details of their orders and accurately explaining the process of ordering currency while in-store

SKILLS

- **Computer Programming:** R (basic), SQL (basic), STATA (basic), Excel VBA (basic), and Python (proficient) including: list comprehension, higher order functions, lambda functions, recursion, OOP, and data structures including Linked Lists and Trees
- **Data Science and Statistics:** Hypothesis testing, bootstrapping, confidence intervals, A/B testing, data storage and manipulation using Pandas, machine learning techniques including: k-nearest neighbors, regression, and classification, Bayes' Theorem
- **Econometrics:** Multivariate OLS regression, coefficient interpretation, statistical significance of coefficients, Two-Stage Least Squares regression, using instrumental variables and testing for relevance and exogeneity, Regression Discontinuity, Difference-in-Difference estimation, F-test, measures of fit
- **Economics:** Lagrangian maximization with budget constraints, game theory analysis, macroeconomic modeling, macroeconomic policy, economic history, reading economic research papers, working on economic research in a team environment
- **Finance:** Interest rate parity and arbitrage, Call-Put parity and arbitrage, Black-Scholes option pricing equation, VAR analysis, Bond/Annuity/Perpetuity pricing, Gordon Growth Model, CAPM, portfolio return and variance
- Excellent written and verbal communication skills with strong analytical and mathematical intuition

WEBSITE

- Visit my website at jackmannion.github.io to view an exhibition of projects and writings related to my own extracurricular economic, financial, and data science work