Edward Gilligan

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Candidate Summary

I am currently a 4th Year at the University of Virginia studying Economics and Classics with a minor in Mathematics. My current research interests include Industrial Organization, Game Theory, and Experimental Economics, though I am more than willing, and would greatly appreciate the opportunity to broaden my horizons in other fields. One to two years from now, I hope to apply to PhD programs in economics.

Education

University of Virginia   *August 2023 – May 2026*
Bachelor of Arts: *Economics, Classics (Greek)*
Minor: *Mathematics*

- GPA: 3.65/4.0, Department GPA: 3.75/4.00
- **Relevant Coursework:** Industrial Organization, Game Theory, Experimental Economics, Labor Economics, Introduction to Econometrics, Differential Equations and Dynamical Systems, Ordinary Differential Equations, Elementary Linear Algebra, Basic Real Analysis, Introduction to Probability, Abstract Algebra
- College of Arts and Sciences Dean's List: Spring 2024, Fall 2024, Spring 2025

Binghamton University (Transferred)   *August 2022 – May 2023*

- GPA: 3.88/4.0
- College of Arts and Sciences Dean's List: Fall 2022, Spring 2023.

Experience

Research Assistant   *Charlottesville, VA*
University of Virginia, Department of Economics   *April 2025 – Present*
Supervisor: Assistant Prof. Po-Hsuan Lin

- Contribute to weekly research meetings focused on literature review, project framing, and methodological discussion in behavioral economics and consumer finance.
- Provide analytical feedback on working papers and presentations; engage critically with current research findings and theoretical models.
- Assist in developing ideas and reviewing relevant empirical studies to support ongoing project design.

Projects

Econometric Paper

- Conducted an in-depth empirical analysis examining the effects of online sports betting legalization on county-level bankruptcy rates and mortgage delinquency rates, distinguishing between loans 89 days or less and 90 days or more delinquent.
- Collected and integrated data from multiple sources, including the U.S. Census Bureau, the Federal Reserve, and other publicly available economic datasets. Employed Stata and Python (using the pandas library) to clean, merge, and structure large datasets for statistical analysis.
- Designed and implemented the Fixed Effects Counterfactual Estimator in Stata to assess causal relationships, accounting for both temporal and cross-sectional heterogeneity across counties.
- Interpreted empirical findings within a broader economic and policy framework to assess the local financial and social implications of sports betting legalization.

Matrix Inverse, Determinant, and Echelon Form Calculator

- Developed a Python program that enables users to input the dimensions and entries of an arbitrary matrix and automatically computes the matrix's inverse, determinant, and reduced row echelon form. The program supports both $n \times n$ and $m \times n$ matrices, incorporates input validation, and utilizes fundamental linear algebra

algorithms implemented through NumPy and symbolic operations.

Basic Experimental oTree Game

- Developed an oTree-based behavioral simulation in Python modeling stochastic betting behavior, mortgage payments, and bankruptcy dynamics across multiple experimental rounds.
- Implemented dynamic state updates for player variables based on probabilistic bet outcomes and fixed financial constraints.
- Defined custom oTree models and constants to parameterize experiment settings, ensuring reproducibility, modularity, and controlled simulation of financial decision processes.

Estimating Demand and Market Outcomes (In Progress)

- Developing an empirical Industrial Organization model of consumer demand using publicly available supermarket scanner data (Dominick's dataset).
- Implementing a logit framework in Python and Stata to estimate own- and cross-price elasticities, recover marginal costs, and simulate merger and pricing counterfactuals.
- Focusing on econometric modeling, data cleaning, and market-structure analysis through a brief written note.

Skills

Languages and Tools: Python, STATA, Tableau (Basic), oTree, HTML, LaTeX, SymPy, NumPy, Pandas, MS Office Applications (Excel, Word, Powerpoint)

References

- Assistant Professor Po-Hsuan Lin
  Department of Economics, University of Virginia
  Email: sbe2ju@virginia.edu
  University of Virginia Department of Economics Phone Number: (434)-924-3177

- Professor Federico Ciliberto
  Department of Economics, University of Virginia
  Email: fc3p@virginia.edu
  University of Virginia Department of Economics Phone Number: (434)-924-3177

- Professor Coulter George
  Department of Classics, University of Virginia
  Email: chg4n@virginia.edu
  Univeristy of Virginia Department of Classics Phone Number: (434)-924-3008

Other Work Experience

Soccer Official   *Charlottesville, VA*
Piedmont Valley Soccer Officials Association   *March 2024 – Present*

- Refereed high school soccer games in the greater Piedmont Valley Area.

Assistant Facilities Supervisor   *Charlottesville, VA*
University of Virginia: Department of Recreation   *August 2025 – Present*

- Provided front desk support and customer service at one of the university's recreation centers.