

# Guillermo Lezama

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## SUMMARY

Economics PhD candidate at the University of Pittsburgh, specializing in Political Economy. Skilled in text-learning, machine learning, and applied microeconomics. Proficient in Python and Stata, adept at communicating complex data insights to a broad range of audiences. Experienced in teamwork, co-authorship, and advisory roles. Actively pursuing data science and analysis roles in economics or social sciences to apply and expand expertise in data-driven research.

## SKILLS

- **Languages & Platforms:** Python, Stata, R, Julia, ArcGIS, Tableau, SQL (basic queries), Pyspark.
- **Python Libraries:** OpenAI, Scikit-learn, Pandas, Matplotlib.
- **Machine Learning:** Naïve Bayes, Regressions, Random Forests (applied to text).
- **Quantitative:** Panel Data, Non-parametric econometrics, Causal Inference, Diff-in-diff, RDD, SGD, IV.

## EXPERIENCE

**Amazon:** Seattle, WA Summer 2024

*Economist Intern, Prime Economics*

- **Fixed Effects Model & Data Analysis:** Developed a PySpark-based model to estimate customer speed sensitivity and analyzed large datasets to uncover insights for key business decisions.
- **Strategic Impact:** Assessed the value of delivery speed changes, guiding strategic investment planning based on customer preferences.

**Universidad de la República:** Montevideo, Uruguay Summer 2024

*Instructor of Exploratory Data Analysis*

- **Course Design:** Taught graduate-level EDA, including dimensionality reduction, clustering, and bias identification.
- **Big Data & SQL:** Used PySpark for large-scale data analysis and taught SQL for relational databases.
- **Practical Application:** Developed hands-on projects using real-world datasets to reinforce EDA techniques.

**University of Pittsburgh:** Pittsburgh, PA Summer 2022 and Summer 2023

*Instructor of Intro to International Economics*

- Created an asynchronous introductory course, producing 80 videos and designing accompanying quizzes/tests.

## SELECTED PROJECTS

**Information about Corruption and Politicians' Proposals** ([Paper](#))

- **Data Management:** Processed 13K+ politicians' proposals, extracting and cleaning unstructured text for analysis.
- **Machine Learning Classification:** Categorized policy proposals into six areas using Machine Learning, and analyzed political manifestos' partisanship using WordScores and Naive Bayes Classification. ([Github Repository](#))

**Analysis of Politicians' Social Media** (co-authored) ([Paper 1](#)) ([Paper 2](#))

- **Data Acquisition and Analysis:** Extracted 14M tweets via Twitter's API, employing classification algorithms and OpenAI's API for topic analysis.
- Found human annotators outperform ChatGPT in **quality/cost**.

**Relative Age Effect in Uruguayan Soccer Players** ([Github Repository](#))

- Scraped and compared birthdate data of Uruguayan soccer players (male and female) with the general population.
- Demonstrated birth month differences between male soccer players, female players, and the general population.
- Used logistic regression and survival analysis to predict youth soccer players' advancement by birth month.

**Testing Qualitative Effects with Experimenter Demand** (co-authored) ([Paper](#))

- **Experiment Design:** Aided in designing lab and online experiments to measure experimenter demand effects.
- Computed Power Calculation using simulations in Python.
- Defined a theoretical framework for presenting research insights.

**Extreme Weather Events and Household Environmentally Friendly Consumption** (co-authored)

- Efficiently merged and cleaned over 15M Nielsen Consumer Panel data points to analyze eco-friendly consumption metrics and assess extreme weather impacts on consumption.

**Uruguayan Elections Data Exploration** ([Github Repository](#))

- Developed a user-friendly web application that enabled users to retrieve precinct-specific election results from the most recent elections by entering their ID, improving accessibility and engagement with electoral data.
- The application received over 1,000 visits in the first week of launch, demonstrating high interest among users.

## EDUCATION

**Summer Institute in Computational Social Sciences** July 2023

**The Erdos Institute, Data Science Boot Camp** May 2023

**University of Pittsburgh, PhD Economics.** (Majors: Micro Theory, Applied Micro. Minor: Experimental Economics.) 2025 (*expected*)

**Universidad de la República (Uruguay), MSc International Economics.** 2019

*BA Economics* 2013