# Guillermo Lezama

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## SUMMARY

Ph.D. candidate in Economics at the University of Pittsburgh, specializing in Political Economy. Actively seeking data science and analytical roles to apply and enhance expertise in data-driven research. Proficient in Python and Stata, with strong skills in text analysis, machine learning, and applied microeconomics. Experienced in teamwork, co-authorship, and advisory roles, with a proven ability to communicate complex data insights to diverse audiences.

## SKILLS AND TRAINING

**Languages & Platforms:** Python, Stata, R, Julia, ArcGIS, Tableau, SQL (basic queries), Pyspark.
**Python Libraries:** OpenAI, Scikit-learn, Pandas, Matplotlib, Seaborn.
**Machine Learning:** Naïve Bayes, Regressions, K-means, Random Forests (applied to text).
**Quantitative:** Panel Data, Non-parametric econometrics, Causal Inference, Diff-in-diff, RDD, SGD, IV.
**Courses**: Summer Institute in Computational Social Sciences, and The Erdos Institute's Data Science Boot Camp.

## EXPERIENCE

**University of Pittsburgh**: Pittsburgh, PA                                                     August 2021 - Now
*Instructor of Intro to International Economics and Research Assistant*
- Created an asynchronous introductory course, producing 80 videos and designing accompanying quizzes/tests.
- Investigated the impact of China's economic rise on Latin American productivity through capital goods imports.
- Leveraging OpenAI APIs and K-means to classify 15,000+ survey responses into economic strategies.

**Búsqueda** (newspaper)**:** Montevideo, Uruguay                                               November 2024
*Freelance Data Analyst*
- Designed and implemented web applications for the 2024 elections to increase website traffic.
- Created interactive tools for visualizing electoral data, making election results comprehensible to the public.

**Universidad de la República**: Montevideo, Uruguay                                 August – September 2024
*Instructor of Exploratory Data Analysis* ([Github)](#)
- 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.

**Amazon:** Seattle, WA                                                                        May - August 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.

**Legislator's Office**: Montevideo, Uruguay                                           Feb 2015 – Feb 2017
*Economics Advisor to a Member of the Parliament*
- Information Synthesis: Crafted presentations and briefs simplifying economic concepts for non-specialist politicians, utilizing macroeconomic and budget data for effective communication.

## SELECTED PROJECTS

**Information about Corruption and Politicians' Proposals** [(Job Market 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) [(Dissertation Chapter Draft)](#) [(Published Paper 2)](#)
- Used OpenAI's API to classify 14M tweets, finding human annotators superior in quality/cost.

**Uruguayan Elections Data Exploration** (2024) [(Github Repository)](#)
- Enhanced Accessibility: Designed and launched a user-friendly web application allowing users to access precinct-specific election results by simply entering their ID, making electoral data more accessible and engaging.
- High Engagement: Attracted over 1,000 visits within the first week of launch, showcasing strong user interest.
- Media Collaboration: Selected by a leading Uruguayan newspaper as a featured tool during elections, boosting their web traffic and audience engagement.

**Extreme Weather Events and Household Environmentally Friendly Consumption** (Spring 2022) (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.

**Testing Qualitative Effects with Experimenter Demand** (Spring 2020) (co-authored) [(Working Paper)](#)
- Experiment Design: Aided in designing lab and online experiments to measure experimenter demand effects.
- Computed Power Calculation using simulations in Python.

## EDUCATION

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

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

*BA Economics* 2013