

# Guillermo Lezama

(412) 897-0180 | Lawrence Township, NJ | guillermo.lezama@pitt.edu | [LinkedIn](#) | [Github](#) | [Personal Website](#)

## SUMMARY

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Ph.D. candidate in Economics with expertise in data science, econometrics, and machine learning. Proficient in Python, Stata, and PySpark, with experience applying causal inference, NLP, and predictive modeling to large-scale datasets. Strong team player with proven success in economic consulting, interdisciplinary research, and co-authorship. Delivered insights from billions of observations during a data-intensive Amazon internship. Skilled in conveying complex data through reports, visualizations, and presentations for diverse stakeholders. Seeking data science, economic consulting, or analytical roles to apply these skills.

## SKILLS AND TRAINING

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**Languages & Platforms:** Python, Stata, R, Julia, ArcGIS, Tableau, SQL, Pyspark.

**Python Libraries:** OpenAI, Scikit-learn, Pandas, Matplotlib, Seaborn.

**Machine Learning:** Naïve Bayes, Linear Regressions, Logistic Regressions, K-means, Random Forests.

**Quantitative:** Panel Data, Non-parametric econometrics, Causal Inference, A/B testing, Diff-in-diff, RDD, IV.

**Courses:** [Summer Institute in Computational Social Science](#); [The Erdos Institute's](#) Data Science Boot Camp & Data Visualization Mini Course.

## EXPERIENCE

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**Amazon:** Seattle, WA May - August 2024

*Economist Intern, Prime Economics*

- Built and optimized a PySpark model to estimate customer speed sensitivity, leveraging econometrics and billions of observations to analyze causal relationships between delivery speed and purchasing behavior.
- Guided business investments with data-driven insights on delivery speed changes and customer preferences.

**Búsqueda (newspaper):** Montevideo, Uruguay November 2024

*Data Analyst* ([Dashboard 1](#) | [Dashboard 2](#) | [Github Repository](#) | [Slides](#))

- Designed and deployed Heroku-hosted web applications for the Uruguayan elections, boosting website traffic.
- Developed interactive tools to visualize electoral data, enhancing public understanding of election results.

**Universidad de la República:** Montevideo, Uruguay August 2024– Now

*Instructor of Exploratory Data Analysis* ([Github Repository for EDA](#)) and *Unstructured and Semi-Structured Data*

- Taught a graduate-level EDA course covering dimensionality reduction, clustering, bias identification, time series, PySpark for large-scale processing, and SQL for relational databases, enhancing students' big data skills.

**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.
- Leveraging OpenAI APIs and K-means to classify 15,000+ survey responses into economic narratives.

**Legislator's Office:** Montevideo, Uruguay February 2015 – February 2017

*Economic Consultant to a Member of the Congress*

- Synthesized information by crafting presentations and briefs that simplified economic concepts for non-specialist politicians, utilizing macroeconomic and budget data to enhance understanding and decision-making.

## SELECTED PROJECTS

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**Information about Corruption and Politicians' Proposals** ([Job Market Paper](#) | [Github Repository](#) | [Slides for NLP part](#))

- Processed 13K+ political proposals, cleaning and structuring unstructured text for analysis.
- Applied ML to classify proposals into six policy areas; analyzed partisanship using WordScores & Naive Bayes.
- Presented findings at the World Bank-IFS-ODI Tax Conference & LACEA-LAMES Conference.

**Analysis of Politicians' Social Media** (co-authored) ([Dissertation Chapter Draft](#) - submitted | [Published Paper](#))

- Used OpenAI's API and ML to classify 14M tweets, outperforming human annotators in quality/cost.

**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.

**Testing Qualitative Effects with Experimenter Demand** (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

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

**University of Pittsburgh, MA Economics.** 2020

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

**Universidad de la República (Uruguay), BA Economics** 2013