

# Mauro Florez

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## EDUCATION

<b>Rice University, Houston, TX</b> <i>PhD in Statistics</i>	GPA: 3.94/4.00	May 2025
<b>Rice University, Houston, TX</b> <i>MA in Statistics</i>	GPA: 3.94/4.00	August 2024
<b>Universidad Nacional de Colombia, Bogotá, Colombia (COL)</b> <i>BS in Statistics</i>	Ranked #1 in class	June 2019
<b>Universidad Sergio Arboleda, Bogotá, COL</b> <i>BS in Mathematics</i>	Honors: 75% tuition waiver scholarship	September 2017

## SKILLS

**Quantitative Skills:** Data Analysis, Statistical Modeling, Machine Learning, Bayesian Statistics, Computational Statistics

**Computer Skills:** R, Python, Matlab, Tableau, SQL, Latex, MS Office

**Language Skills:** Fluent in English, Fluent in Spanish, Beginner in Italian

## SELECTED DATA ANALYSIS PROJECTS

- A Multivariate Model for Analysis of Correlated Count Data**, Rice University, *Houston, TX* Aug. 2022 - May 2023
- Designed and implemented a Bayesian model to analyze correlated count data, capable of handling data with any type of dispersion and outperforming traditional Negative Binomial and Poisson models.
  - Authored a research paper in the Journal of Quantitative Analysis in Sports, showcasing the model's advantages and its practical application to real-world sports data.
  - Developed and published the R package *MultiRegCMP* on the CRAN repository, enhancing accessibility and reproducibility.
- Soccer Betting Model - Machine Learning Model**, Rice University, *Houston, TX* Jan. 2021 - May 2021
- Developed and applied machine learning models to predict the number of cards a referee shows in soccer games.
  - Employed web scraping techniques in R to gather data on soccer games across 20 years.
  - Demonstrated that the proposed Neural Network model outperforms commonly used models in predicting the number of cards in soccer games. Attaining a positive predicted value of 75.23%.
- Lung Disease Risk Prediction in a Coal Mine**, Universidad del Rosario, *Bogotá, COL* May 2017 - Sep. 2017
- Formulated a Survival Model to predict the risk of contracting a lung disease in one of the largest coal mines in America
  - Conducted the cleaning data process of the data and proposed a methodology for the imputation of missing data in the longitudinal study comprising more than 300 workers spanning over 20 years
  - Partnered with interdisciplinary teams to gather and analyze relevant data, ensuring the validity and accuracy of the implemented predictive model

## SELECTED WORK EXPERIENCE

- Instructor** - Rice University, *Houston, TX* Jun. 2022 - Aug. 2022
- Taught probability and statistics course (STAT 310), teaching 26 students through prepared and recorded lessons, adapting teaching methods to accommodate various learning styles, and ensuring a comprehensive understanding of the material.
  - Rated as "Outstanding" instructor by 65% of students
  - Developed strong communication and presentation skills by effectively conveying complex statistical concepts to diverse groups of students
- Data Analyst** - Department of Science, Technology and Innovation (Minciencias), *Bogotá, COL* May 2019 - Jun. 2020
- Maintained and updated institutional information databases in SQL to ensure accuracy and relevance
  - Collaborated in the collection, consolidation, and refinement of data for precise and up-to-date reporting
  - Designed and implemented information dashboards on the Tableau platform for data analysis, supporting internal and external decision-making needs of the organization

## SELECTED PUBLICATIONS & PROJECTS

- Florez, M.**, Gottard, A., Guindani, M., Vannucci, M. (2024). Bayesian Mixed Graphical Model. Manuscript in preparation.
- Florez, M.**, Guindani, M. & Vannucci, M. (2024). Bayesian bivariate Conway–Maxwell–Poisson regression model for correlated count data in sports. Journal of Quantitative Analysis in Sports. aop.
- Otálora-Otálora, B. A., **Florez, M.**, López-Kleine, L., Canas Arboleda, A., Grajales Urrego, D. M., & Rojas, A. (2019). Joint transcriptomic analysis of lung cancer and other lung diseases. Frontiers in Genetics, 10, 1260