Mauro Florez

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EDUCATION

Rice University, *Houston, TX* May 2025
PhD in Statistics & Fulbright Scholar GPA: 3.94/4.00
Universidad Nacional de Colombia, *Bogotá, Colombia (COL)* June 2019
BS in Statistics Ranked #1 in class
Universidad Sergio Arboleda, *Bogotá, COL* September 2017
BS in Mathematics Honors: 75% tuition waiver scholarship

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

Soccer Betting Model - Machine Learning Model, Rice University, *Houston, TX* Jan. 2021 - May 2021

- Developed and applied machine learning models to predict the total number of cards shown by a referee 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%.

Cost Estimation Model for Worker Absences - GLM Model, Universidad del Rosario, *Bogotá, COL* Oct. 2017 - Mar. 2018

- Designed and developed a cost estimation model, using a Regularized General Linear Model in R, for an insurance company in Colombia, focusing on worker absences due to musculoskeletal disorders for workers across all regions of Colombia and multiple occupational sectors
- Conducted data cleaning and the descriptive analysis of the dataset comprising over 10,000 records of employees absences
- Collaborated with multidisciplinary teams to ensure data quality and accuracy in predicting future costs, with results presented in a general meeting for the company and the university's research team

Lung Disease Risk Prediction in a Coal Mine - Survival Model, Universidad del Rosario, *Bogotá, COL* May 2017 - Sep. 2017

- Formulated a Survival Model to predict the risk of contracting a lung disease for workers of 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.
- Received positive feedback from students for providing a supportive environment during this essential course
- 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 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

PUBLICATIONS & PROJECTS

- **Florez, M.**, Gottard, A., Guindani, M., Vannucci, M. (2024). Bayesian Mixed Graphical Model. Manuscript in preparation.
- **Florez, M.**, Guindani, M., Vannucci, M. (2023). Bayesian Bivariate Conway-Maxwell-Poisson Regression Model for Correlated Count Data in Sports. Manuscript submitted for publication.
- Rivera, H. M., Muñoz, E. N., Osuna, D., **Florez, M.**, Carvajal, M., & Gómez, L. A. (2021). Reciprocal changes in miRNA expression with pigmentation and decreased proliferation induced in mouse B16F1 melanoma cells by l-tyrosine and 5-bromo-2′-deoxyuridine. International Journal of Molecular Sciences, 22(4), 1591.
- 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