# Lina Florez

florez.lina0123@gmail.com ❖ linaflorez.github.io ❖ 1-217-979-3212 ❖ Pittsburgh, PA 15206

## SKILLS

**Programming Languages:** Python • SQL/MySQL • Javascript (including Google Apps Script) • Tableau • Google Sheets
**Technical Skills:** Statistical Analysis • Machine Learning • Data Visualization • Data Mining
**Packages & Tools:** Numpy • Pandas • Matplotlib • bash • Scipy • Jupyter • scikit-learn
**Natural Languages:** English (fluent), Spanish (fluent)

## EXPERIENCE

**MailMind AI** **December 2023 – Present**
*Data Scientist* *Pittsburgh, PA*

- Tasked with improving the operational efficiency of the ML/AI-driven email management product by deploying a variety of classification machine learning models, ultimately facilitating the identification and utilization of the most effective models tailored to the company's requirements.
- Utilizing Python and Jupyter notebooks for statistical analyses and data visualizations, identifying crucial metrics for evaluating classification models and gaining a deeper understanding of the most effective models for deployment.

**Rapid TPC** **June 2023 – Present**
*Software and Production Operations Intern* *Pittsburgh, PA*

- Worked to add a robust nesting algorithm and corresponding user interface onto the company website, which would allow customers to upload products and receive quick cost estimates, facilitating seamless progression in their engagement with our services.
- Successfully spearheaded the development of a Flask API to automate production blueprints, integrating them to concurrent production runs and creating improved blueprints, leading to a more robust and an optimized manufacturing process.
- Crafted a functional user-friendly Google Sheets interface in combination with Google Apps Scripts and the FLASK API, allowing for more streamlined product specification inputs and manufacturing processes.
- Partnered closely with the CEO to document diverse manufacturing processes, significantly enhancing operational clarity and streamlining training and process optimization.

**University of Pittsburgh** **August 2020 – April 2023**
*Graduate Research Assistant* *Pittsburgh, PA*

- Led the development of an SDK called MANGA-C, an innovative astronomy Python package. Collaboratively addressed challenges to ensure the package's ability to forecast astronomical observations using multidimensional data.
- Performed preprocessing, comprehensive data analysis, and advanced statistical analysis on a sample of galaxy observations. Strategically prepared the data for seamless integration into the MANGA-C framework, laying the groundwork for subsequent in-depth analysis and insights.
- Instructed over 300 students in Introduction to Astrophysics as a teaching assistant, adapting to the challenges of the pandemic to foster an engaging virtual learning environment.

**Princeton University** **June 2017 – May 2020**
*Research Assistant* *Princeton, NJ*

- Utilized pandas and SQL in advanced data science applications, initiating preprocessing procedures and conducting thorough comparative analysis of galaxy properties, which laid the groundwork for early-stage analysis within combined astronomical datasets.
- Executed Principal Component Analysis (PCA) to model and develop sky subtraction algorithms, all to advance the project's comprehension of atmospheric interference in astronomical observations.
- Communicated complex research methodologies and results for multiple presentations to diverse audiences.

## PROJECT

**DESI-ML**

- Applied machine learning regression models, including Random Forest and XGBoost, to analyze around 20,000 Dark Energy Spectroscopic Instrument (DESI) survey spectra for predicting physical characteristics of galaxies.
- Achieved significant enhancements in key evaluation metrics, notably reducing Normalized Average Absolute Deviation (NAAD) and Root Mean Squared Error (RMSE), while improving the Spearman Correlation Coefficient (SCC).

## EDUCATION

**University of Pittsburgh** **August 2020 – April 2023**
*Master of Sciences, Physics* *Pittsburgh, PA*
Relevant Coursework: Astrostatistics, Classical & Quantum Mechanics, Thermodynamics & Statistical Mechanics

**University of Illinois at Urbana-Champaign** **August 2016 – May 2020**
*Bachelor of Science, Astronomy* *Urbana, IL*
Relevant Coursework: Calculus III, Linear Algebra, Computing in Astronomy, Computing in Physics