

# Lina Florez

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## SUMMARY

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Accomplished data scientist with a focus on data analysis, machine learning, and data visualization using Python, SQL, and Tableau, prepared to make meaningful contributions to an organization's data-driven mission.

## EDUCATION

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### 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

## SKILLS

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**Programming Languages:** Python • SQL (MySQL) • Javascript • Tableau

**Technical Skills:** Statistical Analysis • Machine Learning • Data Visualization • Data Mining

**Packages & Tools:** Numpy • Pandas • Matplotlib • bash • Scipy • Jupyter • scikit-learn

**Natural Languages:** Spanish (fluent), English (fluent)

## EXPERIENCE

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### Rapid TPC

June 2023 – Present

*Software and Production Operations Intern*

*Pittsburgh, PA*

- Spearheaded the development of automated prototypes and production templates utilizing JavaScript
- Conducted regular meetings to facilitate the seamless integration of additional features into the templates
- Executed the implementation and concurrent refinement of the templates in tandem with production runs

### University of Pittsburgh

August 2020 – April 2023

*Graduate Research Assistant*

*Pittsburgh, PA*

- Analyzed and manipulated multi-dimensional data of nearby galaxies to forecast observations of distant objects
- Processed, analyzed, and visualized spectroscopic data from thousands of galaxies in the LEGA-C astronomical survey
- Thrived in collaborative environments to learn, address challenges, and implement strategies that produced successful outcomes
- Instructed over 300 students in Introduction to Astrophysics as a teaching assistant

### Princeton University

June 2017 – May 2020

*Research Assistant*

*Princeton, NJ*

- Optimized the merging and analysis of astrophysical databases using pandas and SQL, to explore quantitative correlations between the visible and X-ray properties of black holes
- Performed principal components analysis (PCA) to model sky emission and optimize foreground removal algorithms
- Communicated complex research methodologies and results for multiple presentations to diverse audiences

## PROJECTS

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### DESI-ML

- Developed predictive models for the Dark Energy Survey Instrument (DESI) using Random Forest and XGBoost
- Applied machine learning regression models to DESI spectra to predict physical characteristics of galaxies
- Future developments include regressing more parameters to determine which models produce the best overall predictions

### Sephora Analysis

- Analyzed Sephora merchandising data using SQL and pandas to determine rising brands and product types
- Currently working on a product recommender system using Python
- Future work includes performing a sentiment analysis of various brands and product types using natural language processing (NLP)