

# Lina Florez

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## WORK EXPERIENCE

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### University of Pittsburgh

Aug. 2020 – Present

*Physics Graduate Student Researcher*

*Pittsburgh, PA*

- Convolved and interpolated the multi-dimensional observational data of select nearby galaxies to create spectral signal mocks at larger distances, in order to evaluate the impact of observational effects on signal measurements.
- Teaching: Worked as a teaching assistant for over 300 students leading several weekly discussion sections and office hours. Prepared weekly teaching materials and solutions, and graded assignments

### Undergraduate Researcher

*Princeton University*

*June 2017 - May 2020*

*University of Illinois at Urbana-Champaign*

*June 2015 - May 2020*

*University of Texas at Austin*

*June 2019 - Aug. 2019*

- Optimized the merging and analysis of two astrophysical databases using pandas and SQL to determine if there exist quantifiable correlations between the visible and X-ray properties of select black holes.
- Used PCA to search for possible correlations in sky emission features to aid in the development of foreground-removal algorithms.
- Fit the time-dependent spectral signal of a dead star to detect and characterize its unseen companion star.
- Prepared routine summaries to discuss weekly progress, receive feedback, and consult on ways to improve analyses in both one-on-one and group settings.
- Coordinated science outreach for Cena y Ciencias, a K-5 program created to increase science accessibility for underrepresented students, by working with UIUC professors and community professionals across several scientific disciplines to develop educational activities for students.
- Created dual-language (English and Spanish) flyers for families, activity worksheets for students, and instructional pages to discuss with volunteers, alongside preparing and organizing events.

## EDUCATION

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### University of Pittsburgh

Aug. 2020 – Present

*M.S. Physics (Expected: April 2023)*

*Pittsburgh, PA*

### University of Illinois

Aug. 2016 - May 2020

*B.S. Astronomy, Physics Minor*

*Urbana-Champaign, IL*

## SKILLS & INTERESTS

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- **Programming Languages:** Python, MySQL/SQL, Tableau
- **Natural Languages:** Spanish (fluent), English (fluent)
- **Packages / Tools:** Numpy, Pandas, Matplotlib, bash, Scipy, Jupyter, scikit-learn, git
- **Technical Skills:** Statistical Analysis, Machine-Learning, Data Visualization, Data Mining
- **Interests:** Machine Learning, Deep Learning, dog-training, reading