

Ciarra Coston

609-775-3095; ciarra.coston@gmail.com

EDUCATION

Boston University, Boston MA
PhD student in Astronomy

August 2024 to Present

Emory University, Atlanta GA
Major: Astronomy & Physics; Minor: Women, Gender, and Sexualities Studies
Graduation with High Honors May 2024
GPA 3.545

August 2022 to May 2024

Oxford College of Emory University, Oxford GA
Major: Astronomy & Physics; Minor: Women, Gender, and Sexualities Studies
Graduation with associate degree May 2022
GPA 3.51

August 2020 to May 2022

RESEARCH AND INTERNSHIP EXPERIENCE

NASA Jet Propulsion Laboratory, Pasadena, California
Student Researcher

May 2023 – Present

- Characterized and age-dated nearby and bright stellar candidates that could host Earth-like planets as precursor science for the future Habitable Worlds Observatory
- Analyzed the time-series photometry using NASA's Transiting Exoplanet Survey Satellite (TESS)
- Attended 2023 Sagan Exoplanet Summer Workshop

University of Delaware, Newark, Delaware
Undergraduate Research Assistant

June 2022 – August 2022

- Reworking the convolutional neural networks of the SCONE model to work with the ELASiTICC (Extended LSST (Legacy Survey of Space and Time) Astronomical Time-Series Classification Challenge) data set rather than the PLASiTICC (Photometric LSST (Legacy Survey of Space and Time) Astronomical Time-Series Classification Challenge) data set it was originally created for
- Created a model to provide fast and accurate supernova classification capable of taking advantage of an enormous influx of data that future observatories will provide
- Participated in workshops to prepare students for graduate school. The workshops included public speaking, presentation skills, and academic writing.

Oxford College of Emory University, Oxford, GA
Undergraduate Research Assistant

May 2021 – May 2022

- Found and categorized debris disks and their variability using NASA's Transiting Exoplanet Survey Satellite (TESS) databased through computer analyses
- Located numerous young stellar objects (YSOs), extreme debris disks, Classical Be stars, and Herbig Ae/Be stars
- For selecting TESS data, conducted variability analyses using archival WISE (Wide-Field Infrared Survey Explorer) data to improve the understanding of debris disks and star formation
- Presented findings at the Georgia Regional Astronomy Meeting (GRAM), November '21

University of Massachusetts Lowell, Lowell, MA
Physics Lab Assistant

Summer 2019

- Designed and developed an electronics curriculum for Haitian high school and college students
- Focused on the ohmic properties of devices, photoconductivity, the conductivity of liquids, and solar electrical power

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- Experimented with breadboards, resistors, photoresistors, and moisture sensors to demonstrate and evaluate theoretical versus actual performance

Northeastern University, Boston MA

Summer 2018

Neuroscience Lab Assistant

- Conducted research involving electromyography (EMGs) and Electroencephalography (EEGs) to better understand the correlation of brain function to face movements
- Studied the computer programming language Python

Resident Advisor

August 2022 – May 2023

- Works as a student-leader within the Residential halls that strives to build community and provide support to help other students both academically and personally

Draper Laboratories, Cambridge MA

Summer 2018

Bio-Engineering Lab Assistant

- Experimented with the bioprocessing of T-Cells to explore ways to improve how T-Cells can be used to help treat diseases specifically cancer using cell therapy
- Worked with other scientists to learn how to culture cells by tracking cell growth and the effects of electric stimulation

Conferences and Presentations

The 243rd Meeting of the American Astronomical Society

January 2024

- In addition to attending, I presented a poster on my research done with JPL.

The 2024 Conference for Undergraduate Women in Physics, Atlanta, GA

January 2024

- Attended this conference that seeks to help support and create opportunities for Women physicists through various presentations, posters, panels, and seminars.

The 2023 Conference for Undergraduate Women in Physics, Orlando, FL

January 2023

- Attended this conference that seeks to help support and create opportunities for Women physicists through various presentations, posters, panels, and seminars.

National Society of Black Physicists 2022 Conference, Charlottesville, VA

November 2022

- Attended this conference that seeks to support and create opportunities for African American physicists through various presentations, career and college fairs, posters, panels, and seminars.

Georgia Regional Astronomy Meeting, Atlanta, GA

November 2021

- Attended this conference that seeks to connect Georgia astronomers through presentations on current and future research and education.

RELATED COURSEWORK

Completed Courses: Introduction to Computer Science I, Introduction to Computer Science II, Calculus I, Calculus II, Introductory Physics I, Introductory Physics II, Multivariable Calculus, Differential Equations, Introduction to Astronomy, Classical Mechanics, Modern Physics, Introduction to Mathematical Methods, Astrophysics II, Computational Modeling, Electricity and Magnetism, Thermodynamic and Statistical Physics, Quantum Mechanics

TECHNICAL SKILLS

Java: Intermediate

Python (including Jupyter Notebook and Google Collab): Intermediate

GitHub: Intermediate

LaTeX: Intermediate

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ACADEMIC PROJECTS/PRESENTATIONS

Emory University, Atlanta, GA

April 2024

Undergraduate Research Assistant, Defended April 2024

Paper: *Characterizing Habitable Worlds Observatory Target Stars: TESS Rotation Periods and Gyrochronological Ages*

- Successfully defended an honors undergraduate thesis on the continuation of the research conducted at JPL.
- Wrote and presented on the characterization and age-dating of nearby and bright stellar candidates that could host Earth-like planets as precursor science for the future Habitable Worlds Observatory

University of Delaware, Newark, Delaware

August 2022

Undergraduate Research Assistant, Presented August 2022

Paper: *Classification of Core Collapse Supernova with a Convolutional Neural Network*

- Presented on research that looked into the classification of Type II supernovae through modifying the machine learning model, SCONE (Supernova Classification with a Convolutional Neural Network)

Oxford College of Emory University, Oxford, GA

November 2021

Undergraduate Research Assistant, Presented November 2021

Poster: *Monitoring the Variability of Disk Detective Candidates at Emory*

- Presented on research that found and categorized debris disks and their variability using NASA's Transiting Exoplanet Survey Satellite (TESS) databased through computer analyses

HOBBIES/INTERESTS

Maui Thai, Skateboarding, Weightlifting, Comic books