# Alia Valentine

Phone: 989-534-6341 Email: valen176@msu.edu Website: valentine-alia.github.io

## EDUCATION

Cornell University

PhD Applied Mathematics

Fall 2024 - Current

Michigan State University

East Lansing, MI
BS Physics and Mathematics, Graduated With Honor

Fall 2020–Spring 2024

Minor in Computational Mathematics, Science, and Engineering

## RESEARCH EXPERIENCE

Summer of Undergraduate Applied Math Institute REU

Carnegie Mellon University

Pittsburgh, PA

Summer 2023

- Assessing the robustness of VBMC for extracting parameters in differential equations

Research Assistant East Lansing, MI

MSU Department of Physics and Astronomy's Physics Education Research Lab Fall 2021 - Summer 2022

- Integrating Computation in Science across Michigan

Research Assistant East Lansing, MI

MSU Department of Physics and Astronomy's Facility for Rare Isotope Beams

Spring 2022 - Summer 2022

- Contributed to development of beam optimization code for the Separator for Capture Reactions

#### Teaching Experience

Learning Assistant

• Electricity and Magnetism I (PHY 481)	Spring 2024
Learning Assistant, Teaching Fellowship	
• Classical Mechanics (PHY 321)	Spring 2024
Learning Assistant	
• Mathematical Modeling in Physics (PHY 415)	Fall 2023

Learning Assistant
 Machine Learning Short Course
 Summer 2023

Co-taught with Professor Danny Caballero

• Physics for Scientists and Engineers II (PHY 184)

Learning Assistant

Spring 2023

• Curriculum Development for Physics for Scientists and Engineers II (PHY 184) Fall 2022

• Curriculum Development for studio physics classes (PHY 173/PHY 174)

Summer 2022

Improved accesibility of course materials

• Physics for Scientists and Engineers II (PHY 184)

Learning Assistant

Spring 2022

• Physics for Scientists and Engineers I (PHY 183) Fall 2021

Learning Assistant
 Physics for Scientists and Engineers I (PHY 183)
 Spring 2021

### Honors and Awards

• Robert F. Smith Fellowship

Cornell University College of Engineering

August 2024

• Thomas Osgood Award for Excellence in Academics and Research Michigan State University department of Physics and Astronomy April 2024

• Undergraduate LA Award, Upper-Level Course
Michigan State University department of Physics and Astronomy

April 2024

• McCartney Scholarship Award

Michigan State University department of Mathematics

April 2023

• Best Poster for Assessing the Robustness of VBMC for Extracting Parameters in Differential Equations

NAM

Mathfest 2023

## Conferences Attended

Graduate Research Opportunities Workshop 2023 Duke University Durham, North Carolina October 20-22, 2023

2023 SIAM Great Lakes Meeting Michigan State University

East Lansing, MI October 14, 2023

## Extracurricular Activities

• Science Theater demonstration maintenance lead Spring 2023–Spring 2024

Science Theater is a science communication club that performs STEM demos for kids of all ages.

• Michigan State University Society of Physics Students Vice President

Summer 2023–Spring 2024

• Women and Minorities in the Physical Sciences Mentoring co-chair

Fall 2022–Summer 2023

• Chaperone of Physics of Atomic Nuclei (PAN) summer camp

July 24-29, 2022, July 23-28, 2023

PAN is a free, week-long summer camp about nuclear astrophysics for high school students.