

AUSTIN J. ROSYPAL

ajrosy99@gmail.com

215-450-3760

<https://austinrosypal.weebly.com>

EDUCATION

University of Wisconsin-Madison

Madison, Wisconsin

Ph.D. in Physics

Fall 2025 - Present

- **Cumulative GPA:** 4.00 / 4.00
- **Notable Courses:** Classical Mechanics, Electrodynamics, Supersymmetry, Quantum Mechanics II, Group Theory for Particle Physics, Particle Physics Detection Methods

Lehigh University

Bethlehem, Pennsylvania

Bachelor of Science in Physics with Honors

Fall 2022 - Spring 2025

Minor in Earth & Environmental Sciences

- **Cumulative GPA:** 4.00 / 4.00
- **Notable Courses:** General Relativity, Graduate Quantum Mechanics II, Graduate Advanced Particle Physics, Quantum Field Theory, String Theory
- **Honors Thesis:** "Measuring the Path-Length Dependence of Jet Energy Loss in $\sqrt{s_{NN}} = 200$ GeV Au-Au Collisions at the STAR Experiment" - [View here]

RESEARCH & TEACHING EXPERIENCE

University of Wisconsin-Madison Sinclair Lab

Ph.D. Research Assistant

Fall 2025 - Present

- Developing a neutral atom qubit modular architecture via entangled optical interconnects as a platform for scalable fault-tolerant quantum computing
- Conducting theoretical and computational analysis of constructing an atom cooling and trapping apparatus, without the usage of magnetic fields
- Attended the 2025 Midwest Cold Atoms Workshop at the University of Illinois at Urbana-Champaign

University of Wisconsin-Madison Physics Department

Teaching Assistant

Fall 2025

- Teaching Assistant for 50 students in PHY 207, Calculus-based Mechanics for majors in the biosciences
- Each week, presented a lecture review in four discussions, monitored two labs, hosted two office hours, and graded one quiz. Proctored and graded exams.
- Typeset and distributed exam review documents to my students, including final exam comprehensive theoretical review - [View here]

Yale University Relativistic Heavy Ion Group

Undergraduate Research Fellow

Summer 2024

- Performed a novel analysis of the path-length dependence of jet energy loss in the quark-gluon plasma using event-shape engineering in the STAR experiment
- Presented findings at the Wright Laboratory Summer Symposium - [View here]

Lehigh University Relativistic Heavy Ion Group

Undergraduate Research Assistant

Winter 2023 - Spring 2025

- Calibration & Commissioning of the sPHENIX Electromagnetic Calorimeter
- Development of a Particle Flow algorithm for the sPHENIX Collaboration
- Conducted work at Brookhaven National Laboratory, led multiple research Journal Club sessions, and presented weekly at Group Meetings

PRESENTATIONS	Oral Presentation at Division of Nuclear Physics Conference	Boston, Oct. 2024
	Yale Wright Laboratory Summer Symposium Talk	July 2024
	Poster Presentation - Lehigh College of Arts & Sciences	Oct. 2024
	Eckardt Honors Capstone Presentation	May 2025
	Undergraduate Thesis Honors Defense	May 2025
	Journal Club Presentations in Lehigh RHIG (3) & UW QIS Group (1)	2024-2026
AWARDS AND HONORS	TA Rookie of the Year Award, <i>UW-Madison Physics Awards</i>	2025-2026
	Eckardt Scholar, <i>College of Arts & Sciences Honors Program</i>	Fall 2023 - Spring 2025
	Elisha P. Wilbur Scholarship Prize, <i>Highest Semester Average for Sophomore Year</i>	Spring 2024
	CAS Undergraduate Research Grant Recipient	Spring 2024
	Goldwater Scholarship Lehigh Internal Finalist	Fall 2023
	Lehigh Honors Convocation, <i>Attaining a 4.00 GPA with Senior Standing</i>	May 2024
	Dean's List, <i>All Semesters</i>	Fall 2022 - Spring 2025
	Arts & Sciences Dean's Scholarship, <i>Academic Excellence</i>	Fall 2022
	RA of the Month Award, <i>Outstanding Leadership</i>	Oct. 2023
SKILLS	CERN ROOT: Particle Physics Data Analysis Framework	
	C++, Linux, Python, Mathematica, LaTeX, LyX, PYTHIA, Arduino IDE	
	English (Fluent), Hindi (Beginner), French (Beginner)	
LEADERSHIP	Physics Research Mentorship Program	Spring 2026
	UW-Madison Wonders of Physics Volunteer	Feb. 2026
	National Conference on Student Leadership, Orlando FL	Nov. 2023
	Nuclear Physics Day in Washington D.C. Attendee	Apr. 2024
	(Head) Residential Assistant	Fall (2024) 2023 - Spring 2025
	Elementary School Physics Demonstrations Outreach	Spring 2025
	Student Leadership Advancement Team, Student Rep.	Spring 2024
	University Committee on Discipline, Student Rep.	Fall 2024 - Spring 2025
	Vice President - Lehigh University Running Club	Fall 2023 - Spring 2025
	Vice President - Society of Physics Students	Fall 2024 - Spring 2025
President - Disc Golf Club	Fall 2024 - Spring 2025	