

Cole Jerum

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EDUCATION

University of Rochester August 2024 – Present

- *School of Arts and Sciences:* B.S. Physics & B.S. Neuroscience
- *Cumulative GPA:* 3.93

Pittsford Sutherland High School September 2020 – June 2024

- *Standardized Test Scores:* 1570 SAT | 35 ACT

EXPERIENCE

UR Extreme State Physics Lab, Research Assistant August 2023 – Present

- Conduct pulsed power experiments on high energy plasmas using laser diagnostics and linear transformer drivers
- Analyze complex data in Python and design experiments by running simulations in an MHD code (PERSEUS)

PHYS 114—General Physics II (E&M), Teaching Assistant Spring 2025

UR Research Experience for High Schoolers, Program Coordinator July 2024 – August 2024

- Coordinated a 4-week research program for 10 high school students, managing schedule and lab placements
- Supported students in developing research projects, resulting in 4 successful research posters

SUNY Geneseo, Research Intern June 2024 – July 2024

- Designed microcontrollers to monitor moisture and temperature levels of a greenhouse
- Implemented data-driven mechanisms to adjust greenhouse's growth conditions in accordance with calculations

AWARDS & HONORS

Monroe County Executive Community Service Award 2024

Rotary Distinguished Service Citation 2024

AP Scholar with Distinction 2024

Rotary Youth Leadership Award 2023

PTSA Recognition Award in Mathematics 2023

ACADEMIC ACHIEVEMENTS

RIT Math Competition—2nd Place 2024

US National Brain Bee, National Competition—Finalist 2023

US National Chemistry Olympiad, Local Exam—2nd Place 2023

RESEARCH PROJECTS

Simulating & Experimentally Measuring Directional Resistivity of a Plasma in a Z-Pinch In Progress

Designing and Implementing Teleoperated High-precision Optical Repositioner (THOR) In Progress

Measuring the Electron Density of a Laser-Produced-Plasma with Interferometry Finished

THOR: Designing Stepper Motor Circuit Boards Finished

Automating Laser Delay-Line Timing Adjustments Finished

PROFICIENCIES

Programming: Python • Fortran • C++ • Linux • Magnetohydrodynamics (MHD) Codes

Engineering: CAD • PCB Design • Soldering • Laser Beam-Path Alignment • Microcontrollers • Machining

Diagnostics: Thomson Scattering • Interferometry