

# AZALEA SHILLINGTON

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Dual-discipline leader in physics and electrical engineering with experience in building and guiding effective teams to solve complex engineering and scientific challenges.

## Experience

Oct 2025 -	<b>Filippini Lab UIUC, Research Assistant</b> <ul style="list-style-type: none"><li>Designed and fabricated PCBs and support circuitry for cryogenic readout systems for the Terahertz Intensity Mapper (TIM).</li><li>Developed specialized test electronics for optical components in TIM, to ensure reliable operation at temperatures down to 4 Kelvin (liquid helium).</li></ul>
Aug 2025 -	<b>The Illinois Space Society, Avionics Engineer</b> <ul style="list-style-type: none"><li>Designed avionics for camera systems in high powered rocketry to attempt a rocket launch to reach the Karman line.</li><li>Focused on PCB design that handles live data, telemetry, and in-flight events.</li></ul>
Dec 2025	
Jan 2023 -	<b>MachBusters Robotics, President</b> <ul style="list-style-type: none"><li>Led a team of 24-29 high school students through the full design, build, and competition cycle for complex, competitive robotics systems.</li><li>Directed project timelines, resource allocation, and team dynamics to achieve challenging technical objectives.</li></ul>
May 2025	
Aug 2024 -	<b>Ohio State University Department of Astronomy, Research Mentee</b> <ul style="list-style-type: none"><li>Researched coronal heating mechanisms under the guidance of Prof. Sultana Nahar.</li><li>Presented research findings in an oral presentation at ICMMS in Dahab, Egypt.</li><li>Received Best Oral Presentation in Physical Sciences at ICMMS-6</li></ul>
Jan 2025	
June 2024 -	<b>CIERA Northwestern University, Research Mentee</b> <ul style="list-style-type: none"><li>Researched on variability in black hole binary accretion disks under Prof. Deepika Bollimpalli</li><li>Analyzed complex simulation data using Python to predict astrophysical behaviors by analyzing local frequencies.</li></ul>
Aug 2024	

## Education

	<b>University of Illinois Urbana-Champaign</b> Physics (B.S.) and Electrical Engineering (B.S.)	2025 - 2029
	<b>Sycamore High School</b> Graduated Summa Cum Laude, top 5% of class, GPA 4.45 (weighted)	2021 - 2025

## Skills

Python, Java, Kotlin, Data Analysis, Computational Modeling, PCB Design, CAD, Project Management, Public Speaking, Academic Writing, Grant Writing

## Relevant Coursework

Mechanics, Electricity & Magnetism, Thermodynamics, Quantum Physics, Multivariable Calculus, Differential Equations, Introduction to Electronics