

MACKENNA KROPATSCH

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Phone Number:
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Education: University of Arizona, Tucson AZ
Bachelor of Science in Engineering, May 2025
Major: Optical Engineering Minor: Planetary Science

Courses: Differential Equations (Spring 2023) Mechanics
Calculus I, II, III Solid State Chemistry
Geometrical and Instrumental Optics Physics Optics (Spring 2023)
Electricity & Magnetism

Computer Skills: Excel Arduino Blender 2.91
Word PowerPoint

Lab Skills: Creating Excel spreadsheets to input and organize data
Cleaning optics and data analysis
Taking measurements using calipers, micrometers
Focusing images along optical rails
Reading digital multimeters

Projects: **Freshman Solar Oven Throwdown** Fall 2021
-Using Excel to mathematically design an efficient solar oven and predict temperature
-Project was designed to help students learn Excel as well as efficient engineering design.
-Two separate models were designed and tested.
-Successfully predicted and reached optimal temperature.
Solar Tracker Fall 2022
- Programmed Arduino to track the Sun and measure solar energy.
-Built a dual-axis tracker attached to a solar panel and coded with x and y axis in mind.

Work Experience:
Platte River Bar and Grill | Littleton, Colorado June 2020 – August 2021
-Summer job working as a busser, food runner, and hostess.
-Used an electronic reservation system to record and monitor guest reservations.
-Team-oriented environment and customer service.
Footie's Rest Sweet Shop | Frisco, Colorado July 2019 – August 2021
-Summer job as ice cream attendant and cashier.
-Collaborated with other employees to complete various duties to keep the shop to code.
-Provided excellent service to customers and communication.
Dependable Cleaners | Highlands Ranch, Colorado June 2019 – March 2020
-Worked as a desk clerk detailing clothes and handling customer concerns and requests.
-Extensively detailed clothing by entering various data into company computer system.
-Organized data and orders.

**Activities/
Awards:** **Arizona Distinction Tuition Scholarship**
Arizona Distinction Scholarship
Student Optics Chapter Volunteer Fall 2022 - Present
-Outreach event at Esmond Station School presenting optics demos (October 21)
Maricopa Cooking Community Group Fall 2022 – Spring 2023