

# Kaytie Barkley

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## EDUCATION

- Bachelor of Science of Mechanical Engineering** Dec. 2020  
South Dakota School of Mines and Technology, Rapid City, SD **GPA 3.84**
- Master of Science of Mechanical Engineering** Dec. 2022  
South Dakota School of Mines and Technology, Rapid City, SD **GPA 4.0**  
Thesis: *Employing Experimental and Analytical Methods to Understand the Ultrasonic Spot Welding Process for Thermoplastic Polymers to Guide Joint Design*

## ACCOMPLISHMENTS

- NASA Space Technology Graduate Research Opportunity (NSTGRO) 2021 to Present
- Awarded a prestigious grant in the amount of \$68,924 to aid the research of ultrasonically spot welded thermoplastics for use in space applications
- South Dakota Space Consortium Research Stipend 2021
- Awarded a research stipend in the amount of \$5,000 for research in utilizing ultrasonically spot welded thermoplastics for space applications
- Ivanhoe Excellence Fellowship 2022
- Awarded a fellowship in the amount of \$1,000 for academic and research excellence

## EXPERIENCE

- Design Intern, Garmin, Kansas City, KS 2020
- One of six ME interns hired out of many applicants. The only intern hired in the Fitness Division.
  - All Garmin internships were canceled due to COVID-19
- Process Engineering Intern, Raven Aerostar, Sioux Falls, SD 2019
- Worked independently on designing and building various projects, including a compass calibration table as well as a solar panel rack storage system.
  - Designed and assembled circuit layouts to use in testing procedures.
  - Presented an overview of the internship in front of peers, mentors and managers.
- Design Intern, Masaba Incorporated, Vermillion, SD 2018 to 2019
- Worked independently on many projects, varying from modeling parts, iParts, 3D prints and designing a conveyor from a customer quote
  - Experienced working with machine shop workers and how to make their tasks more efficient
- Teaching Assistant, School of Mines, Rapid City, SD 2021
- Assisted Dr. Cassandra Birrenkott with grading homework and supervising the laboratory section of her class, "Mechanics of Viscoelastic Solids."

## TECHNICAL SKILLS

- Inventor, Solidworks, MATLAB, Mathcad, COMSOL, LabView, Data Acquisition Systems
- Designing and manufacturing aluminum and steel parts, 3D printing, ultrasonic welding

## RECOGNITION AND CONTRIBUTIONS

- SD Mines "Outstanding Mechanical Engineering Graduate Student" Award 2022
- SD Mines Mechanical Engineering Department Student Board 2019 to 2020
- Tau Beta Pi Engineering Honors Society 2018 to Present