

CARTER BARKLEY

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EDUCATION

- South Dakota School of Mines and Technology**-Rapid City, SD Dec 2020
M.S., Mechanical Engineering GPA: 3.864
Proposed Thesis: Response of Thermoplastic Matrix Composite Joints to Various Loading Conditions
Advisor: Dr. Cassandra Birrenkott
- South Dakota School of Mines and Technology**-Rapid City, SD May 2019
B.S., Mechanical Engineering – Robotics Minor GPA: 3.848
Relevant Coursework: Composites Manufacturing, Applied Finite Element Analysis, Machine Design II, Viscoelastic Solids

WORK EXPERIENCE

- Teaching Assistant**, SDSM&T-Rapid City, SD Fall 2018, Fall 2019-Spring 2020
- Assisted with laboratory lessons and graded students' reports and assignments
 - ME-419L (Thermo-Fluid Systems Design Lab)
 - ME-351L (Mechatronics and Measurement Lab)
 - ME 265L (Product Design Lab)
 - ME-210 (Statics of Mechanisms)
- Research Assistant**, Composites and Polymers Engineering (CAPE) Lab-Rapid City, SD Spring 2019-Fall 2019
- Assisted with manufacturing and assembly of continuous fiber thermoplastic prepreg production machine
 - Worked in a machine shop setting with a variety of machining equipment
 - 3D printed large scale custom molds to be used for composite sheet thermoforming
- Manufacturer**, FBT Sawmill-Steen, MN Summer 2018
- Ran shop equipment and hand tools to process lumber and manufacture custom furniture
 - Worked with a variety of materials including woods and epoxy resins
- Mechanical Engineering Intern**, Nelson Engineering-Sioux Falls, SD Summer 2017
- Sized heat exchangers and pumps, analyzed process and instrumentation diagrams for projects
 - Developed applications to calculate pipe stress and head loss for pipes under various conditions

RELEVANT EXPERIENCE

- Moonrockers Robotics Team**, SDSM&T-Rapid City, SD Jan 2016-Present
- Offices held: President—Fall 2018-Spring 2019, Treasurer—Fall 2016-Spring 2018
 - Leader of team focused on designing and manufacturing an autonomous robot to compete at the NASA Robotics Mining Competition
 - Placed 3rd in the mining category and 7th overall at the 2018 competition
- European Project Semester**, Høgskolen i Oslo og Akershus-Oslo, Norway Spring 2017
- Worked with international students, testing and improving HackAir air pollution sensors for the EU
- Engineers and Scientists Abroad Chile Project**, SDSM&T-Rapid City, SD Summer 2016
- Design lead for a project involving the installation of solar panels for an orphanage in Vicuña, Chile
 - Designed and assembled solar panel stands
 - Aided the selection of the solar panels, inverter, charge controllers, and batteries

SKILLS

- SolidWorks
- MasterCam
- Cura
- C++
- Python
- Matlab
- Abaqus
- Digital Image Correlation
- Mathcad
- Manual Mill
- Manual Lathe
- Photoshop