Becca Divine

Rebecca.Divine@utah.edu | (612) 804-5128 | www.linkedin.com/in/becca-divine

Experience

R&D Intern – Computational Mechanics June 2025 – Present

Sandia National Laboratories – Albuquerque, NM

- Developing a deep learning model to predict fatigue behavior in additively manufactured (AM) stainless steel. The model will enable the identification of life-limiting regions within AM parts and help inform design and qualification strategies.
- Applying a transfer learning approach to transfer learned behavior from a simple stress-strain response model to a more complex fatigue model. The transfer learning approach helps to significantly cut down computational costs.

Undergraduate Researcher January 2024 – Present

University of Utah: Multiscale Mechanics & Materials Laboratory – Salt Lake City, UT

- Awarded UROP funding for Fall 2024 and Spring 2025 for research on predicting bulk ductility.
- Developed a deep learning regression model to predict the bulk effective yield strength for a given sub-representative volume element microstructure.

Aerospace Engineering Intern May 2024 – August 2024

U.S. Air Force – Hill Air Force Base, UT

- Qualified a high velocity oxy-fuel (HVOF) coating process by analyzing metallurgical samples and quantifying porosity using image analysis techniques.
- Improved the reliability and accuracy of evaluations through refined image acquisition and a new MATLAB and Python based analysis procedure, reducing qualification variability by 50% in low-porosity samples and 75% in high-porosity samples.
- Reduced analysis time by 98% with process automation.

Teaching Assistant

University of Utah: Mechanical Engineering Department – Salt Lake City, UT

- ME EN 2010 (Statics) Fall 2024
- ME EN 1000 (Intro to Mechanical Design) Fall 2023

Biology Intern May 2022 – August 2022

Dartmouth Medical Center – Lebanon, NH

- Collaborated with pharmacists to improve medication safety and reduce waste and contamination.
- Designed and implemented custom operating room trays for specialized procedures.

Education

B.S. Mechanical Engineering | Emphasis: Aerospace Engineering May 2026
University of Utah
Transfer Spring 2023
GPA: 3.86

Colby-Sawyer College September 2019 – December 2022
Studied Biology, Chemistry, Pre-Medical Track

Skills and Qualifications

MATLAB	Machine Learning	Image Processing
Python	PyTorch	SOLIDWORKS (CSWA Certified)
Arduino C	TensorFlow	

Awards

- Aerospace Scholar
- Undergraduate Research Opportunity Program (UROP) Scholar

Affiliations and Accomplishments

- Tau Beta Pi Engineering Honors Society
- Dean’s List – University of Utah
- Dean’s List – Colby-Sawyer College
- Member of Colby-Sawyer NCAA Division I Alpine Ski Team
- Minnesota State Alpine Champion
- U.S. National and Junior National Alpine Ski Racing Attendee