

Benjamin Saunders

Curriculum Vitae
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EDUCATION

- Bachelor of Science, Mechanical Engineering** Jun 2014-Apr 2019
Brigham Young University
Provo, UT
GPA: 3.55
- PhD Candidate, Mechanical Engineering** Aug 2019-Current
Washington State University
Pullman, WA
GPA: 3.59
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PUBLICATIONS

- A Novel Bio-Inspired Pneumatic Valve Adapter for Soft Robotic Vasculature** Sep 2020
ASME SMASIS 2020 Conference Publication
- Performance Metrics for Fluidic Soft Robot Rotational Actuators** Aug 2021
Frontiers in Robotics and AI Publication
- A Novel Flexible Bio-Inspired Pneumatic Valve Adapter for Soft Robotic Vasculature** Oct 2021
ASME SMASIS 2021 Conference Publication
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RESEARCH EXPERIENCE

- Doctorate Research** Aug 2019-Current
Innovated nascent soft robotic fluidic concentric-tube spool valve
Utilized RTOS software in development of multi-system robotic control interface
Developed novel multi-step casting fabrication process for soft robotics
Assisting in developing multi-robotic communications with ROS
- AI Research: Convolutional Neural Networks** Nov 2019 & Apr 2020
Developed a CNN to analyze images and categorize them
Developed a CNN with a team to analyze a soft robot and determine its orientation

BYU Mars Rover Team Aug 2018-May 2019
Coordinated with other subsystem teams to build a new rover
Competed with prototype in international competition
Directed volunteers working with team and taught them basic engineering skills

Research Assistant Aug 2017-May 2019
Dr. Marc Killpack, Mechanical Engineering Department
Metrics of Soft Robotics
Prototyped new soft robots

Research Assistant Jan 2018-May 2018
Dr. Mark Colton, Mechanical Engineering Department
Planned and executed individual quadrotor drone project that spanned several months

TEACHING EXPERIENCE

Instructor July 2022-August 2022
Introductory Mathematics for STEM Applications
MIRA Program, WSU
Created and taught a 2-month curriculum

Teaching Assistant Aug 2020-Dec 2022
Mechatronics, ME 401
Mechanical Engineering Department, WSU
Coordinated with other TA's and professor to develop a new curriculum and ensure a quality experience for a hands-on course that was executed completely remote.

Teaching Assistant Jan 2015-April 2016
Physical Science
Physics Department, BYU
Taught lab sections and assisted students in understanding basic science principles

Tutor May 2015-Aug 2015
Physics for Engineers
Statics in Mechanical Engineering, BYU
Provided opportunities for students to learn and gain confidence in their understanding.

HONORS AND AWARDS

GAANN Fellowship Aug 2019-Current
U.S. Department of Education awarded fellowship
A discretionary/competitive grant
Full tuition, insurance, and stipend

Boise Alumni Scholarship Brigham Young University \$2,730 for Academic Excellence	2017-2018
BYU Half-Tuition Scholarship Brigham Young University Due to Academic Excellence	2016-2017
Phi Eta Sigma BYU Freshmen Academic Honors Society, top 20% of class	2015

SERVICE AND OUTREACH

Volunteer Secretary Organize schedule and meetings for local service group of	Nov 2020-Current
GPSA STEM outreach Prepped and assisted children to learn about and build their own robots	May 2020
Volunteer Teacher Taught monthly course on improving marriage and family relations Lead discussions between 5-8 couples	Aug 2017-Jul 2018
Bulgarian-Speaking Volunteer Basic Bulgarian speaking skills. Coordinated Groups of 15 people, managed funds and directed weekly meetings Planned, organized, and taught English classes to 10-20 people weekly Developed strong work ethic doing community and family service in Bulgaria.	May 2012-May 2014

REFERENCES

Dr. John Swensen

Associate Professor and Research Advisor, Washington State University
(509) 335-1031
john.swensen@wsu.edu

Dr. Ming Luo

Assistant Professor, Washington State University
509-335-4034
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Dr. Marc Killpack

Associate Professor, Brigham Young University
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