

Aidan Brooks

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OBJECTIVE	To secure a summer internship in the field of Mechanical Engineering	
EDUCATION	Missouri University of Science and Technology (Missouri S&T) BS. Mechanical Engineering, planned Design & Analysis emphasis	May 2021 GPA: 3.941/4.0
	Saint Louis Community College at Meramec Dual Enrolled - High School, 68 credit hours	2014 - 2017 GPA: 3.94/4.0
EXPERIENCE	Missouri S&T – Manufacturing Automation and Control Laboratory Student Research Assistant	Rolla, MO Aug 2019 – Present
	<ul style="list-style-type: none">• Raised sample rate of visual Proportional-Integral-control (PI-control) algorithm to practical maximum on non-deterministic (time variant) OS• Actively reconfiguring image processing and PI-control algorithms for use on National Instruments Real-Time OS• Investigating implementation of closed-loop laser output power stabilization Distinguished Undergraduate Research Fellow	May 2019 – Aug 2019
	<ul style="list-style-type: none">• Created image analysis subroutines in LabVIEW to facilitate control of glass DED (directed energy deposition) processes• Developed basic PI-control scheme in LabVIEW to control laser output power	
	Watlow Electric Engineering Intern (Winter Break)	Saint Louis, MO Dec 2018 - Jan 2019
	<ul style="list-style-type: none">• Tuned and calibrated Keyence visual gaging system• Verified and optimized production equipment through sample analysis Engineering Intern	Jun 2018 - Aug 2018
<ul style="list-style-type: none">• Designed and improved manufacturing production equipment• Performed support engineering of manufacturing equipment and systems• Developed GUI automation of laser-marking software using Python IDE		
Missouri S&T - Mars Rover Design Team Team Member – Manipulators	Rolla, MO Aug 2018 - Present	
<ul style="list-style-type: none">• Led modeling and design of primary end-effector for the 2019 University Rover Challenge (URC) Equipment Servicing mission Team Member - Research and Development	Aug 2017 - May 2018	
<ul style="list-style-type: none">• Investigated trapped-tooling mandrel concepts for integration with currently implemented composite manufacturing processes• Designed and modeled atmospheric sensor mounting assembly utilized on 2017 Atlas competition rover		
Saint Louis Community College at Meramec Student Tutor – Mathematics	Kirkwood, MO Aug 2016 - Jul 2017	
<ul style="list-style-type: none">• Created five-day exam study planner to promote positive study habits• Facilitated student mastery of Intermediate Algebra, College Algebra, and Calculus I Supplemental Instruction Leader – College Algebra	Dec 2015 - Aug 2016	
<ul style="list-style-type: none">• Generated comprehensive practice problem sets and solutions for student use• Coached students with creation and population of study schedules		

Self-Directed Experience

Saint Louis & Rolla, MO

Tinkerer

Aug 2013 - Present

- Designed and built laptop-controlled Arduino-based miniature blimp
- Designed and prototyped semi-autonomous Raspberry-Pi-controlled 4x4 rover
- Currently designing and prototyping Guidance, Navigation, and Control (GNC) package for the autonomous descent and landing of model rockets

COMPUTER SKILLS

Siemens NX 12

SolidWorks

Python

C++

Linux

MS Office Suite

LaTeX

Arduino

LabVIEW

HONORS & ACTIVITIES

Missouri S&T Distinguished Undergraduate Research Fellow

Missouri S&T Dean's List, four terms

Missouri S&T Chancellor's Scholarship Finalist

Saint Louis Community College Dean's List, three terms

Saint Louis Community College Academic Achievement Award

World Bird Sanctuary Volunteer Animal Care Technician, five years

CERTIFICATES

Programmable Logic Controllers – Completion of MS&T short course, Spring 2019



Student Design & Experiential Learning Center

Transcript

Student Name: Aidan Brooks

Team Participation:

Term	Team
FS2019	Mars Rover
SP2019	Mars Rover
FS2018	Mars Rover
SP2018	Mars Rover
FS2017	Mars Rover

Training:

Class	Grade	Date
Manual Lathe Lecture	Pass	02/10/2019
Manual Mill Lab	Pass	01/28/2019
Manual Mill Lecture	Pass	11/17/2017
Machining Preparatory Class for Mill and Lathe	Pass	10/31/2017
Electronics Lab Training	Pass	10/27/2017
Basic Machine Shop Training	Pass	10/06/2017
Safety Glasses	Pass	09/21/2017
General Safety Training	Pass	09/10/2017

Christopher Ramsay, Ph.D
Design Center Director

Date: 09/22/2019

Learn. Succeed. Have Fun!