

Joshua David Eckels

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Education:	B.S. Mechanical Engineering Rose-Hulman Institute of Technology Terre Haute, IN 47803	GPA 3.98/4.0	2017-2021
	<ul style="list-style-type: none">Minors: Aerospace engineering, Thermal fluids, Computer Science, MusicCoursework: Propulsion, Thermodynamics, Materials, Aerodynamics, Controls, Fluids Computational Fluid Dynamics, Numerical Simulation, Data Structures		
Experience:	Los Alamos Dynamics Undergraduate Researcher Los Alamos National Laboratory, Los Alamos, NM 87545		2020-ongoing
	<ul style="list-style-type: none">Performed ultrasonic wavefield imaging on components for non-destructive evaluationImproved performance and processing time of acoustic wavenumber spectroscopy by training a convolutional neural network to recognize defects in plate-like structuresIntegrated ANSYS, MATLAB, and deep learning workflow with Python automation		
	Assistive Robotics Lab Undergraduate Researcher Virginia Tech, Blacksburg, VA 24061		June-Aug 2019
	<ul style="list-style-type: none">Investigated and classified navigation constraints and barriers for autonomous vehiclesIntegrated with existing SLAM and convolutional neural networks for robotic navigationUtilized computer vision to identify and localize barriers in a 3D point cloud map		
	Metronet Inc. Design Intern 3701 Communications Way, Evansville, IN 47715		June-Aug 2018
	<ul style="list-style-type: none">Revised and performed quality control on fiber network designs and construction drawingsUpdated and maintained company as-built fiber designs utilizing GIS softwareGenerated bills of materials and compiled and documented procedure manuals		
Skills:	Software <ul style="list-style-type: none">Siemens STAR-CCM+ Experience in 2D and 3D flow visualization and CFDANSYS Mech, Fluent Proficient in ANSYS workbench tools and Python scriptingMATLAB Proficient in numerical analysis and system modelingBS SOLIDWORKS Intermediate CAD and stress/motion analysis experienceOpenCV, ROS, Fast.ai Intermediate in machine learning and conv neural networksCloud computing Remote deep learning virtual machine with GPU accelerationLanguages Proficient in Java, Python, C, Linux and shell scripting Practical and Lab <ul style="list-style-type: none">Wind tunnel labs Experience with airfoil wind tunnel testing and measurementEngine cycle analysis Familiarity with turbojet engine cycle analysis and carpet plotsBasic shop skills Experience with mills, lathes, welding, CNC, etc. fabrication		
Activities & Honors:	Activities <ul style="list-style-type: none">Formula SAE Aero team member, simulating new under-tray design in CFDTau Beta Pi Engineering honor society and community involvement Honors <ul style="list-style-type: none">Barry Goldwater research scholarship nominationHeminway Bronze medal for top of undergraduate classRose-Hulman Dean's List 9/9 quarters		
			2019
			2019
			2017-present
