

# Shaun FEDRICK

## Physics / Mechanical Engineer | Master's Student

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Philadelphia, PA U.S. Citizen



## EDUCATION

December 2021 January 2020	<b>University of Pennsylvania   M.E.A.M (Mechatronics and Robotic Systems) , (M.S.E.), (3.7/4)</b> <ul style="list-style-type: none"><li>&gt; Mechanical engineering master's student, concentrating in mechatronic and robotic systems.</li></ul> <div>Engineering TechnologiesRapid PrototypingMechanicsStress and Failure AnalysisSensorsRoboticsDesign</div>
December 2020 August 2016	<b>Haverford College  Physics (B.S.) , HAVERFORD,PENNSYLVANIA , (3.1/4)</b> <ul style="list-style-type: none"><li>&gt; Fluid dynamic research; Thesis : Touch Down of a Sphere in Viscoelastic Media</li><li>&gt; Questbridge Scholar, Chesick Scholar, and J. Henry Scattergood Scholarship recipient</li></ul> <div>PhysicsAnalytical ThinkingProblem SolvingCodingSensorsExpirementation</div>

## PROFESSIONAL EXPERIENCE

May 2020 December 2018	<b>Fluid dynamic research   Student Researcher, HAVERFORD COLLEGE AND UNIVERSITY OF PENNSYLVANIA, Pennsylvania</b> <ul style="list-style-type: none"><li>&gt; Analyzed mechanics of a probe using Matlab, Java, and Fiji</li><li>&gt; Designed apparatuses to observe lubrication forces in viscoelastic fluids</li><li>&gt; Fabricated apparatuses using a laser cutter, 3d printer, and machined parts</li><li>&gt; Characterized viscoelastic fluids using a rheometer</li></ul> <div>MatlabSolid WorksJavaInstron testing instrumentsCommand line toolsFiji</div>
May 2020 August 2019	<b>Physics Clinic Student Tutor , HAVERFORD COLLEGE, Pennsylvania</b> <p>Tutored students in intro physics this includes :</p> <ul style="list-style-type: none"><li>&gt; Free bodies, trajectories, gravity, rotational motion, and various other lessons in mechanics</li><li>&gt; Coulombs law, circuitry design, Maxwell's equations, and various other lessons in E&amp;M</li></ul> <div>CircuitryMechanicsAnalysisTeachingCommunication</div>
May 2019 August 2016	<b>Digital Scholarship   Digital Scholar , HAVERFORD COLLEGE, Pennsylvania</b> <ul style="list-style-type: none"><li>&gt; Programming in Python, Django, and D3.js</li><li>&gt; Navigating through a server and managing it</li><li>&gt; Command line tools</li></ul> <div>DjangoPythonD3.jsBootstrapCommand line tools</div>

## PROGRAMMING AND TECHNOLOGIES

Java	●●●●●
C++	●●●○
Python	●●●●●
Matlab	●●●●●
Fusion 360	●●●●○
Solid Works	●●●●○
Ansys/Comsol	●●●●○

## MATH AND PHYSICS

Numerical Methods	●●●●○
Calculus	●●●●●
Linear Algebra	●●●●○
ODEs and PDEs	●●●○
Circuitry	●●●○
Mechanics	●●●○
Robotics	●●●○

## SKILLS

Coding and Technical Skills	Java, Matlab, Python, C++, Fusion 360, Solid Works
Fabrication and Design	Rapid prototyping, 3d printing, lasercutting, CNC milling
Math and Science	Mechanics, numerical methods, Calculus, ODEs, PDEs, Circuitry, Robotics
Technologies	Ros, Gazebo, Ansys, Comsol, Fiji, iMovie
Office Skills	Linux, Command Line Tools,Power Point, Git, Website Design, Excel, Word, $\text{\LaTeX}$
Other	Teaching, Device Trouble Shooting