

# Paul Howell

Scottsdale, AZ 85254

Phone: (602) 696-9814 | Email: Paul\_Howell1789@outlook.com | LinkedIn URL: <https://www.linkedin.com/in/paul-howell-88888a196/>

Eagle Scout graduating from an ABET-accredited BSME program looking to design and manufacture products that are high quality and cutting edge

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## Education

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### Northern Arizona University -- Flagstaff, Arizona

Bachelor of Science in Mechanical Engineering (BSME), GPA: 3.77, Expected Graduation May 2023

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## Skills

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- CAD (Solidworks, Solidworks Simulation, Fusion360, AutoCAD)
- Coding (MATLAB, CAM)
- Mechanical Systems Maintenance (Automotive systems, Machine tools, Hydraulics)
- Machining (HAAS certified in the programming and operation of CNC lathe and milling centers, as well as manual tooling including mills, lathes, arc welders, band saws, etc.)

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## Projects

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### Tesla Small Front Drive Unit Mount, Hasport Performance, Senior Capstone (In Progress)

- Working with client to develop subframe swap kit that will allow a Tesla front drive unit to power a Honda Del Sol

### Escapade Instrument Development, Northern Arizona University, January 2022 - Present (In Progress)

- Helped create a novel instrument for use on upcoming cubesat launch
- Assisted in material selection and CAD modeling using DFM
- Conducted FEA, thermal, and vibration analysis using Solidworks Simulation to ensure stakeholder requirements were met
- Currently iterating on design for continuous improvement before delivery date

### Simulating Lift and Drag Over an Arbitrary Airfoil, Northern Arizona University, January - May 2022

- Wrote original code in MATLAB to simulate the lift and drag over an arbitrary airfoil using the vortex and source panel methods

### Other Projects, Northern Arizona University Machine Shop, January 2021 - March 2022

- Participated in the design and manufacturing of various other student projects while employed by the campus machine shop including: NASA Prototype Lunar Habitat, SAE Baja, SAE E-Baja, ASME Human Powered Vehicle, Collegiate Wind Competition, and a General Atomics Satellite Test Bracket that resulted in extra departmental funding

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## Work Experience

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### Research Engineer Intern, HeetShield Inc., January 2022 to Current

- Assisted a multidisciplinary team in the research, development, and testing of a Lean manufacturing and quality control processes

### Design Engineer Intern, Hasport Performance, June 2022 to August 2022

- Designed and prototyped shifter plate adapters, manual transmission shifter assemblies, and other miscellaneous parts for production and patent using Solidworks modeling and simulation software
- Created and updated manufacturing and bend drawings for various product using GD&T standards

### CNC Machinist, Hasport Performance, May 2021 to January 2022

- Performed setups, machined and inspected motor mounts in a medium volume facility
- General G and M code applied in trouble shooting

### Machine Shop Manager, Northern Arizona University, January 2021 to March 2022

- Duties include creating precision parts for clients, consulting with students on their engineering projects, assisting with creating drawing files, and performing general maintenance on shop machines

### Manufacturing Associate, Leadpoint Business Services (Axon Enterprise), May 2020 to January 2021

- Assembled conductive electrical weapons and their components on an assembly line
- Specialized in quality control using X-Ray and other inspection equipment