

Ethan Shoemaker

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EDUCATION

Northern Arizona University | Flagstaff, AZ | August 2018 – May 2022

Bachelor of Science | Mechanical Engineering | Honors: *cum laude*

EXPERIENCE

NASA Space Grant Intern | August 2021 – Present

- Implementation of neural networks in Python using PyTorch
- Developed deep-learning algorithm capable of finding fluid flow solutions without the application of boundary conditions
- Successfully decreased network convergence from 5500 to 2400 epochs

SAE Aero Micro Capstone | August 2021 – Present

- Co-team lead of six-person team designing and testing a radio-controlled airplane
- Manufactured carbon fiber airfoil in partnership with local composite manufacturing company
- Conducted analytical review of lift, drag, power, and weight characteristics

Research Assistant | Northern Arizona University | Flagstaff, AZ | May 2021 – Present

- Undergraduate Research Assistant in NAU's Dynamic and Active Systems Lab
- Developed a time-scheduled recording device in partnership with the Forestry department to identify the presence of various animals

Fluid Mechanics MATLAB Projects | January 2021 – May 2021

- Developed MATLAB programs to generate solutions of pipe-flow problems using iterative solution techniques
- Generated 3D quiver plots of fluid flow through journal bearings onboard the International Space Station

Teaching Assistant | Northern Arizona University | Flagstaff, AZ | August 2020 – May 2021

- Teaching Assistant for "Introduction to Engineering Design" and "Mechanics of Materials"
- Duties include grading papers and assisting students with any questions they have

SOFTWARE SKILLS

- MATLAB
- Python
- Arduino
- SolidWorks
- Multisim
- Microsoft Office

TECHNICAL SKILLS

- Composite Manufacturing
- Soldering
- 3D Printing