Jianyu Hua

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EDUCATION

- **University of Michigan** Ann Arbor, MI
  Ph.D. in Mechanical Engineering *Aug 2024 – Present*

- **Virginia Tech** Blacksburg, VA
  B.S. in Mechanical Engineering *Aug 2017 – May 2023*

  Dean's List with Distinction: Fall 2020, Spring 2022, Fall 2022, Spring 2023

RELEVANT COURSEWORK

Mechanical design; Deformable bodies; Dynamics; Numerical method; Mechanical vibration; Fluid dynamics; Advanced Technology for Motor Vehicle; Vehicle Control.
Material science, Control engineering, Applied Electrical Theory, Engineering design and Economics, Thermodynamics, Heat and mass transfer, Electrical Engineering Lab.
Advanced Engineering Acoustics; Optimization Technologies in Engineering.
Sound in Elastic Solid.

EXPERIENCE

Ultrasound Acoustic Research in MetaLab at University of Michigan. *August 2024 – Present*
- Underwater communication.
- Underwater object detection.

Ultrasound Acoustic Research Group, Virginia Tech University *August 2022 – May 2023*
- Collaborated in the development of an acoustic vortex for moving particles in water, with potential applications in biomedical engineering.
- Gained hands-on experience with 3D printing, transducer array design, and underwater experiments.
- Programmed a 6-degree-of-freedom robotic arm using Python and inverse kinematics, enabling precise control of transducer arrays in 3D space.

Solar Car Team, Virginia Tech University *August 2022 – May 2023*
- Participated in a 2-year senior design project to develop a fully functional and competitive solar car platform, working within a team of 17 students.
- Designed and analyzed suspension components using SolidWorks, Adam Cars, and Ansys, optimizing for cost and performance requirements.
- Gained more than 100 hours of experience operating a CNC machine, manufacturing mounting plates and wheel spacers from 4130 steel.

SKILLS

- Software: SolidWorks, Adam Cars, Ansys, Python, MATLAB, Bellhop
- Manufacturing: 3D printing, CNC machining.
- Engineering: Mechanical Design, Acoustics, Control Engineering, Finite Element Analysis.