# Zichen He

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## Education

**University of Michigan, College of Engineering**                                                                Ann Arbor, MI
*Bachelor of Science and Engineering in Mechanical Engineering*                                    Sept. 2022-Present
- GPA: 3.936/4.0
- Course Highlights: MATH 571 Numerical Linear Algebra (present) ME 520 Advanced Fluid Mechanics 1 (present) ME 320 Undergraduate Fluid Mechanics (A)
- Honors:
    Dean's List and University Honors for both 22 fall and 23 winter.
    College of Engineering Scholarship      $2000 for 2023-2024

**Sichuan University, Pittsburgh Institute**
*Bachelor of Science and Engineering in Mechanical Engineering*                                    Chengdu, Sichuan
- GPA: 3.79/4.0                                                                                                                    Sept. 2020-Jun. 2022
- Awards/Honors:
    SCUPI's Dean's List, Sichuan University Pittsburgh Institute                                    2020-2021
    SCU Comprehensive Second-class Scholarship, Sichuan University                      2020-2021

## Research Experience

**Summer Research**                                                                                                              Ann Arbor, MI
*Advised by Prof. Aaron Towne*                                                                                    Apr. 2023- Aug.2023
- Produced transfer maps for information flux for two-point statistics of turbulence using python
- Generated data for linearized complex Ginzburg-Landau system and performed information-theoretic causality analysis using python
- Conducted Proper Orthogonal Decomposition (POD) using MATLAB and performed information-theoretic causality analysis to data using python

**[ME 390 Independent Study](#)**                                                                                        Ann Arbor, MI
*Advised by Prof. Aaron Towne*                                                                                    Jan. 2023- Apr.2023
- Used Globus to download the flow field data and used MATLAB to perform computation
- Revealed coherent structures of turbulent boundary layers by plotting POD modes and singular values using 2-D time series dataset
- Software used: MATLAB, Python

## Course Project

**[Design, manufacture, test a powered mechanism for sensing the targets](#)**          Ann Arbor, MI
**Design and Manufacturing2 Course Project**                                                        Jan. 2023-Apr. 2023
- Designed and manufactured a functional four bar linkage which can be mounted on the playing field
- Optimized the overall performance of the four bar linkage by tuning the parameters and improving codes for the whole mechatronic system, including the actuator, sensor, and controller
- Scored 28 out of 31 points, being the top 20% in our course

**[Design and Manufacture Robotic Machine Player (RMP)](#)**                                Ann Arbor, MI
**Design and Manufacturing1  Course Project**                                                      Sept. 2022-Dec. 2022

- Designed a functional RMP which can hit cubes from different heights, store, transport cubes using SolidWorks
- Manufactured different parts of RMP by milling, lathe, 3D printing, waterjet, and metal bending
- Scored over 15 points for our squad and got the 5th place

# Teaching Experience

**Instructional Aide** · Ann Arbor, MI
*Instructor: Prof. Jianping Fu* · Aug. 2023- present
- Worked as an Instructional Aide (IA, undergraduate teaching assistant) for ME 335 Heat transfer
- Held office hours 4 hours per week to help students with clarifying concepts, solving homework and exam problems
- Gave tutorial session for preparing the midterm and final and graded students' exams

# Leadership Experience

**Peer Advisor Program** · Chengdu, Sichuan
*Peer Advisor and PA leader* · Sept. 2021- July. 2022
- Gave advice and orientation for 20 engineering students to help them better adapt to college life
- Organized ice-breaking activities for 10 groups of 200 freshmen as a PA leader. About 90% of the participants found this activity helpful to prepare them for the academic and social life in the university
- Awarded "Outstanding Peer advisor" and "Outstanding PA leader"

**SCUPI Student Council** · Chengdu, Sichuan
*Deputy Leader of Finance* · Sept. 2021- July. 2022
- Prepared and purchased items needed by carnival.
- Organized Study Break for 300 students between midterms period, including the preparation for games, snacks and desserts

# Skills

- **Languages:** Fluent in English and Mandarin
- **Technical Skills:** CATIA, SolidWorks, MATLAB, Python, PowerPoint, Excel, Word