Kan LIU

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Education

- **Zhejiang University** *09/2022 - 06/2026*
  Bachelor of Mechanical Engineering Zhejiang, China
  - Minor: Chu Kochen Honored College: Advanced Class of Engineering Education (ACEE)
  - GPA: 4.16/4.3 (rank 1/191)
- **University of Oxford** *08/2024 - 09/2024*
  Visiting Student Oxford, United Kingdom
  - Mark Scale: A- (Definition: Excellent)
- **The University of Hong Kong** *06/2025 - 08/2025*
  Summer Research Programme Hong Kong, China
  - Fully funded by HKU

Research Experience

- **Zhejiang University, Supervisor: Peng Zhao** *03/2024 - Present*
  The State Key Laboratory of Fluid Power & Mechatronic Systems
  - Researching the key technology and application of wake sensing by bionic seal whiskers.
  - Fabricated and improved three-dimensional bionic force decoupling sensors.
- **The University of Hong Kong, Supervisor: Lizhi Xu** *06/2025 - 08/2025*
  Biomimetic Materials and Bio-Integrated Devices Lab
  - Developed self-adaptive gripper based on liquid crystal elastomer.
  - Conducted poster presentation and thesis defense.

Publications

- **Biomimetic Hydrodynamic Sensor with Whisker Array Architecture and Multidirectional Perception Ability** *Advanced Science 2024*
  *Huangzhe Dai, Chengqian Zhang, Hao Hu, Zhezai Hu, Haonan Sun, **Kan Liu**, et al.*
  - participated in the experiments and measurements.
  - developed a multidirectional hydrodynamic sensor based on biomimetic whisker array structure and magnetic 3D self-decoupling theory.
- **Modeling and Optimization of Biomimetic Magnetic Cilia for Multifunctional Tactile Sensor (Cover paper)** *Advanced Materials Technologies 2025*
  ***Kan Liu**, et al.*
  - Served as the **first author**, responsible for the majority of research design, experimentation, and manuscript drafting.
  - Proposed a quantitative theoretical model that captures the coupled mechanical and magnetic behavior of cilia-based tactile sensors.

Honors and Awards

- **Chu Kochen Scholarship (ZJU's highest student honor, awarded to 12 undergraduates annually)** *2025*
- **National Natural Science Foundation of China, Young Students Fund (Top 144 across China)** *2025*
- **National Scholarship of the People's Republic of China (Top 0.2% across China)** *2023&2024*
- **Zhejiang University Scholarship-First Prize (Top 3% at ZJU)** *2023&2024*
- **Outstanding winner of the 17th National University Student Social Practice and Science Contest on Energy Saving and Emission Reduction (Top 0.2% across China)** *2024*
- **First Prize of Zhejiang Undergraduate Engineering Practice and Innovation Ability Competition** *2024*
- **Ningbo Future Star Scholarship (Top 1000 across China)** *2024*
- **Silver Award, China International College Students' Innovation Competition 2025** *2025*
- **Special Prize, the 19th "Challenge Cup" China Mobile National College Students' Extracurricular Academic Science and Technology Works Competition (Top 0.024% across China)** *2025*

Skills

- **English:** TOEFL 104 (Reading 27 | Listening 28 | Speaking 22 | Writing 27)
  GRE 325 + 3.5 (Verbal Reasoning 155 | Quantitative Reasoning 170 | Analytical Writing 3.5)
- **Software:** SolidWorks, AutoCAD, ANSYS, Origin, Adobe Illustrator, Adobe Photoshop
- **Programming:** Arduino(C), MATLAB, LaTeX, ROS, Python