HAOWEN JIA

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EDUCATION

Sun Yat-sen University (SYSU) *Sep 2022 - Jun 2026 (expected)*
B.S. in Physics

- GPA: **3.9/5.0 (89.4/100)**
- Rank: **27/133**

Suzhou Institute of Biomedical Engineering and Technology (SIBET), Chinese Academy of Sciences, University of Science and Technology of China (USTC) *Jun 2025 - Sep 2025*
Research Assistant in Biomedical Engineering

- Research project: Evaluation of SiC MOSFET Key Parameters for Nanosecond Pulsed Field Ablation

PUBLICATION

[1] Kai Zhu, Fukun Shi, **Haowen Jia**, Yuyi Guo, Jinlin Gong, Jinsong Guo, Junfeng Rao, Jie Zhuang. "An Application-Driven Framework for Characterizing SiC MOSFET Performance: Bridging Datasheet Specifications and Nanosecond Pulsed Applications." *Measurement* (**IF=5.6, JCR Q1**).

[2] **Haowen Jia**, Taoren Bai, Siyuan Peng, Junle Yang, Junhao Huang, Shuangqiang Liu. "An FBG-Based Method for Measuring the Viscosity Coefficient of Sunflower Seed Oil." (In Preparation)

RESEARCH EXPERIENCE

Evaluation of SiC MOSFET Key Parameters for Nanosecond Pulsed Field Ablation
Supervisors: Prof. Jie Zhuang *SIBET, USTC, Jun 2025 - Sep 2025*

- Built the experimental setup and performed tests under the guidance of faculty and senior researchers.
- Wrote **Python** programs to calculate and analyze SiC MOSFET key parameters, including rise/fall time, turn-on/off delay, and drain-source current.
- **Achievement:** Co-authored a paper titled "An Application-Driven Framework for Characterizing SiC MOSFET Performance: Bridging Datasheet Specifications and Nanosecond Pulsed Applications," accepted by *Measurement* (**IF=5.6, JCR Q1**).

Investigation of the Second Law of Thermodynamics via Thermoelectric Heat Engine
Supervisors: Prof. Zhu Li *SYSU, Jul 2024 – Sep 2024*

- Built a 3D model of the heat engine using **SolidWorks**.
- Conducted finite element analysis on a heat engine using **Ansys** to obtain the temperature distribution on its surface.
- **Achievement:** Co-authored a technical report that won the **Second Prize** in The Tenth National College Student Physics Experiment Competition.

Research on Viscosity Measurement of Sunflower Seed Oil via FBG Technology
Supervisor: Prof. Shuangqiang Liu *SYSU, Mar 2025 – Now*

- Conceived the research topic, developed the physical model, and led the team in building the experimental platform.
- Designed **Python** programs to numerically solve dynamic equations and calculate the viscosity coefficient.

- **Achievement:** Preparing a manuscript titled "An FBG-Based Method for Measuring the Viscosity Coefficient of Sunflower Seed Oil" for publication.

SKILLS

Languages:	Chinese (Native), English (CET4: **600**, CET6: **621**)
Programming:	Python, C, C++
Modelling:	SolidWorks, UG/NX, AutoCAD
Simulation:	Matlab, Ansys
Others:	LaTeX, Word, PowerPoint, Excel, Photoshop

AWARDS & HONORS

The Third National College Student Olympic Mathematics Competition (*Jun 2024*) **First Prize**

The Tenth National College Student Physics Experiment Competition (*Nov 2024*) **Second Prize**

The Sixteenth National College Student Mathematics Competition (*Dec 2024*) **Third Prize**

The Outstanding Student Scholarship at Sun Yat-sen University (*Aug 2023*) **Third Prize**

The Outstanding Student Scholarship at Sun Yat-sen University (*Aug 2024*) **Second Prize**

The Outstanding Student Scholarship at Sun Yat-sen University (*Aug 2025*) **First Prize**

SOCIAL ENGAGEMENTS

Astronomy Club of Sun Yat-sen University
Member of the Theoretical Section *Oct 2022 - Jun 2024*

- Popularized astronomy knowledge and guided students in telescope usage.

University Rural Volunteer Program
Lechang, Guangdong *Jul 2023*

- Conducted physics outreach experiments, explained the underlying physical principles for rural children, and guided them in stargazing using telescopes.
- Worked in the fields, assisting villagers with harvesting fruits.

HOBBIES

Music:	Saxophone (Skilled) and Bamboo Flute (Skilled)
Sports:	Basketball, Football, Badminton and Tennis
Photography:	Landscapes and Animals