

# Yuan Yao

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## Education

- **Jilin University** 2021.9-now  
*Bachelor of Engineering, School of mechanical and aerospace engineering* GPA: 3.76/4, rank within top 5%
- **Tohoku University** 2023.10-2024.8  
*Exchange student, Department of Robotics* 8/9 Course grades: A/ AA

## Research experiences

- **Exploration of Film Separation Technique by Internal Laser Damage** [\[Link\]](#) 2023.10-2024.8  
*Exchange student advised by Prof. Shuji Tanaka and Andrea Vergara* MEMS lab, Tohoku University
  - **Oral presentation** on the 37th International Microprocesses and Nanotechnology Conference (MNC 2024) [\[Slides\]](#) [\[Abstract\]](#)
  - A paper under review for the conference extended special issue: **Yao, Y.**, Vergara, A., Tang, Z. & Tanaka, S. Feasibility study of layer separation using 2D patterned internal laser damage in silicon. *Japanese Journal of Applied Physics* [\[Paper manuscript\]](#)
  - Experienced in clean room workflows and equipment operation:

Mask design	Mask Fabrication	Photolithography	Deep silicon etching (DRIE)
Sputtering	Ion beam milling	PVD/CVD	Optical/SEM/Infrared microscopy
- **Ultrasonic vibration-assisted scratch testing platform: design and study** [\[Link\]](#) 2022.9-2024.4  
*Undergraduate research program advised by Prof. Hu Huang* Huang lab, Jilin University
  - National Undergraduate Training Program for Innovation and Entrepreneurship(NCSIETP), **National Excellent Conclusion**, securing research funding of 10,000CNY
  - Utility Model Patent published: H. Huang, **Y. Yao**, Y. Huang, and H. Wu, “An ultrasonic vibration device for vibration-assisted scratch testing,” Chinese Patent CN 220649966U, Mar. 22, 2024. [\[Patent\]](#)
  - Journal paper published: Huang, Y.; Wu, H.; **Yao, Y.**; Zhao, H.; Huang, H. An Ultrasonic Vibration Scratch Tester for Studying the Scratch Characteristics of Materials under Ultrasonic Vibration Contact Status. *Actuators* 2024, 13, 262. <https://doi.org/10.3390/act13070262>

## Skills

- **Languages:** Native Mandarin; Fluent English including IELTS: 7.0 (6.5), CET4: 622, CET6: 559, GRE: 320; Basic Japanese
- **Professional Software:** Proficient:Solidworks, Autocad; Intermediate: Catia; Ansys, Abaqus, Recurdyn; Matlab Simulink, Origin
- **Basic Programming Skills:** Python, Matlab, C#, L<sup>A</sup>T<sub>E</sub>X

## Awards and Honors

- **National second prize- National University Students' Advanced Drawing Technology and Product Information Modeling Innovation Competition**  
**Content:** Advanced Engineering drawing and proficient in CAD software [\[Link\]](#) 2022.8
- **Provincial first prize - China College Students Engineering Practice and Innovation Competition**  
**Content:** Designed and fabricated an auto-turning mini-car prototype [\[Link\]](#) 2023.11
- **Exchange student scholarship - Japan Student Services Organization** 2023.10-2024.8
- **First-class scholarship - Jilin University** 2023.11/ 2022.11
- **Excellent student - Jilin University** 2023.11/ 2022.11
- **Excellent student leader - School of Mechanical and Aerospace Engineering, Jilin University** 2022.11