

# Wei Yue

University of California, Berkeley, USA  
Tel: (+1) 510-984-8328, E-mail: [wei\\_yue@berkeley.edu](mailto:wei_yue@berkeley.edu)  
Prof. Liwei Lin's lab, 1113 Etcheverry Hall

## EDUCATION

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<b>Peking University, Beijing, China</b> <i>Bachelor of Science in Theoretical and Applied Mechanics</i> GPA: 3.90/4.00 (No. 1/45)	Sep. 2017- June 2021 June 2021
<b>University of California, Berkeley, USA</b> GPA: 3.98/4.00 (ME 226 A+, ME 271 A+, ME 219 A+, ME 280A A+, DATA C200 A+)	Aug. 2021- present

## RESEARCH EXPERIENCE

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<b>Berkeley Sensor and Actuator Center</b> <ul style="list-style-type: none"><li>● Sensing and Actuation Applications Using Lithium Niobate PMUTs</li><li>● Ultrasound-induced Haptic Interface</li><li>● Insect-scale Flying Robots</li></ul>	Aug. 2021- present
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## ACTIVITIES & AWARDS

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● Merit Student of 2017-2018, Peking University	Dec. 2018
● Benz Scholarship of 2017-2018, Peking University	Dec. 2018
● First Prize of National Physical Competition for College Students in China	Dec. 2018
● Merit Student of 2018-2019, Peking University	Nov. 2019
● Academician Yang Fuqing and Wang Yangyuan scholarship, Peking University	Nov. 2019
● First Prize of National Zhou Peiyuan College Student Mechanics Competition	Aug. 2019
● Merit Student of 2019-2020, Peking University	Nov. 2020
● Peking University first-class scholarship, Peking University	Nov. 2020
● Graduate Division Block Grant, UC Berkeley	May 2022
● Graduate Division Block Grant, UC Berkeley	May 2023
● John and Janet McMurtry Fellowship, , UC Berkeley	Aug. 2024

## PUBLICATIONS

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1. Sui F\*, **Yue W\***, et al. Untethered Sub-Centimeter Flying Robots[J]. Science Advances, Accepted.
2. Xia F, Peng Y, **Yue W**, et al. High sound pressure piezoelectric micromachined ultrasonic transducers using sputtered potassium sodium niobate[J]. Microsystems & Nanoengineering (Nature Publishing Group), Accepted.
3. Gao Y, Sui F, **Yue W**, et al. Propeller Optimization of Micro Flying Robots by Deep Reinforcement Learning[C]// 2025 23st International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers), Accepted.
4. Gao Y\*, **Yue W\***, et al. Enhanced Real-Time Gas Detection Accuracy by a Scalable Machine Learning Scheme[C]// Proceedings of 38th IEEE Micro Electro Mechanical Systems Conference, pp. 569-572, Kaohsiung Taiwan, Jan. 2025.
5. Ghosh S, He P, Xia F, **Yue W**, et al. Biodegradable and Self-Healable Piezoelectric Hydrogel for Biocompatible Solid-State Transducers[C]// Proceedings of 38th IEEE Micro Electro Mechanical Systems Conference, pp. 569-572, Kaohsiung Taiwan, Jan. 2025.
6. Tsao P, Averitt S, Teng M, Tang H, Chen T, Peng Y, **Yue W**, et al. Contactless Ultrasonic Fluid Viscosity and Density Monitoring[C]// Proceedings of 38th IEEE Micro Electro Mechanical Systems Conference, pp. 569-572, Kaohsiung Taiwan, Jan. 2025.
7. He P, Abelson A, **Yue W**, et al. Ionic-Liquid Gated Electrochemical Carbon Nanotube Transistor with

- High On-Off Ratio for Selective Gas Sensing[C]// Proceedings of 38th IEEE Micro Electro Mechanical Systems Conference, pp. 569-572, Kaohsiung Taiwan, Jan. 2025.
8. Teng M, Tsao P, **Yue W**, et al. Dynamic PMUTs Packaging Using Shape Memory Alloy[C]// Proceedings of 38th IEEE Micro Electro Mechanical Systems Conference, pp. 569-572, Kaohsiung Taiwan, Jan. 2025.
  9. **Yue W**, et al. Ultrafast Biomimetic Untethered Soft Actuators with Bone-in-Flesh Constructs Actuated by Magnetic Field[J]. *Advanced Functional Materials*, *Advanced Functional Materials*, 2024: 2401159. (cover)
  10. **Yue W**, et al. Mid-air Particle Manipulations by a 2by2 PMUT Array[C]// Proceedings of the Hilton Head Workshop 2024: A Solid-State Sensors, Actuators and Microsystems Workshop, June 2-6, Hilton head Island, SC, 2024.
  11. Ding R, Teng J, Cao Z, Cao Y, Qian X, **Yue W**, et al. Self-powered Autonomous Electrostatic Dust Removal for Solar Panels by an Electret Generator[J]. *Advanced Science*, 2024.
  12. Tsao P, Teng M, Peng Y, Premanadhan V, Chen T, Averrit S, **Yue W**, et al. Simultaneous Detection of Fluid Viscosity and Density via PMUTs Assisted by Machine Learning[C]// Proceedings of the Hilton Head Workshop 2024: A Solid-State Sensors, Actuators and Microsystems Workshop, June 2-6, Hilton head Island, SC, 2024.
  13. Teng M, **Yue W**, et al. Continuous Volumetric Indoor Temperature Monitoring via PMUTs[C]//2024 IEEE 37th International Conference on Micro Electro Mechanical Systems (MEMS). IEEE, 2024: 967-970.
  14. Teng M, **Yue W**, et al. PMUT Package Design Optimization via Machine Learning[C]//2024 IEEE 37th International Conference on Micro Electro Mechanical Systems (MEMS). IEEE, 2024: 971-974.
  15. Chen X, Wang Z, **Yue W**, et al. A Non-Volatile Surface Tension-Driven Electrochemical Liquid Metal Actuator[C]//2024 IEEE 37th International Conference on Micro Electro Mechanical Systems (MEMS). IEEE, 2024: 705-708.
  16. Peng Y, Liu H, Chen C, **Yue W**, et al. 9-Meter-Long 3d Ultrasonic Objects Detection via Packaged Lithium-Niobate PMUTs[C]//2024 IEEE 37th International Conference on Micro Electro Mechanical Systems (MEMS). IEEE, 2024: 124-127.
  17. **Yue W**, et al. Auto-Positioning and Haptic Stimulations via A 35 mm Square PMUT Array[C]//2023 IEEE 36th International Conference on Micro Electro Mechanical Systems (MEMS). IEEE, 2023: 941-944.
  18. **Yue W**, et al. Untethered Swarm Robots with Independent Crawling and Rolling Motions[C]//2023 22st International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers). pp. 678-681, Kyoto Japan, June 2023.
  19. **Yue W**, et al. Asymmetrical PMUTs for Focused Acoustic Pressure by Reinforcement Learning[C]//2023 22st International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers). pp. 808-811, Kyoto Japan, June 2023.
  20. **Yue W**, et al. Low-cost and Rapid Fabrication of Microchannels by Kirigami-based Soot Coating for the Detection of Explosives[C]//2023 22st International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers). pp. 1329-1332, Kyoto Japan, June 2023.
  21. Liu Y, **Yue W**, et al. Development of an Amperometric Biosensor on a Toothbrush for Glucose[J]. *Sensors and Actuators Reports*, 2023, 5: 100133.
  22. Xia F, Deng H, **Yue W**, et al. PMUT Array for Mid-Air Thermal Display[C]//2023 IEEE International Ultrasonics Symposium (IUS). IEEE, 2023: 1-3.
  23. Xia F, Peng Y, **Yue W**, et al. High-SPL PMUT Array for Mid-Air Haptic Interface[C]// 2023 22st International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers). pp. 124-127, Kyoto Japan, June 2023.
  24. Xia F, Peng Y, Pala S, Arakawa R, **Yue W**, et al. High-SPL and Low-Driving-Voltage PMUTs by Sputtered Potassium Sodium Niobate[C]//2023 IEEE 36th International Conference on Micro Electro

Mechanical Systems (MEMS). IEEE, 2023: 135-138.

25. Liu H\*, Peng Y\*, **Yue W\***, et al. Drone-Mounted Low-Frequency PMUTS for > 6-Meter Rangefinder in Air[C]//2023 IEEE 36th International Conference on Micro Electro Mechanical Systems (MEMS). IEEE, 2023: 957-960.
26. Sui F\*, **Yue W\***, et al. Trial-and-Error Learning for MEMS Structural Design Enabled by Deep Reinforcement Learning[C]//2023 IEEE 36th International Conference on Micro Electro Mechanical Systems (MEMS). IEEE, 2023: 503-506.
27. Luo X, **Yue W**, et al. A Highly Transparent Chip for Sensing Hydrogen Peroxide[J]. IEEE Sensors Letters, 2022, 6(9): 1-4.
28. Guo R, Sui F, **Yue W**, et al. Deep learning for non-parameterized MEMS structural design[J]. Microsystems & Nanoengineering, 2022, 8(1): 91.
29. Sui F\*, **Yue W\***, et al. Designing Weakly Coupled Mems Resonators with Machine Learning-Based Method[C]//2022 IEEE 35th International Conference on Micro Electro Mechanical Systems Conference (MEMS). IEEE, 2022: 454-457.
30. Sui F, Guo R, **Yue W**, et al. Customizing Mems Designs via Conditional Generative Adversarial Networks[C]//2022 IEEE 35th International Conference on Micro Electro Mechanical Systems Conference (MEMS). IEEE, 2022: 450-453.