Jieke (Jack) Wu

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Education

University of Science and Technology of China, Hefei, China 08/2021 – 06/2025 (expected)

B.S. in Biological Technology, School of Life Sciences

- GPA: 3.40/4.30, Rank: 29/91
- Core Courses: Linear Algebra B1 (90/100), Electromagnetism B (90/100), Undergraduate Research Project (A+), Undergraduate Innovation and Entrepreneurship Training Program (A+)

Publications

- **Jieke Wu**, Wei Huang, Mingyuan Bai, Xiaoling Hu, Yi Duan, Wuyang Chen. "Training-free Design of Augmentations with Data-centric Principles." *ICML 2024 Workshop AI4Science*.

Experience

Hierarchical Transformer for Genomics Research Assistant

Cedars-Sinai Medical Center, Dr. Zijun Zhang
UC Berkeley, Dr. Wuyang Chen 03/2024 – 08/2024

- Investigated hidden patterns in DNA sequences using deep learning techniques.
- Improved model performance by integrating global and local DNA sequence information.

Training-free Data-centric Augmentations Research Assistant

UC Berkeley, Dr. Wuyang Chen 06/2023 – 02/2024

- Developed metrics to evaluate data quality and its impact on deep neural networks without extensive training.
- Published at ICML 2024 Workshop AI4Science.

Isolation of Bacteriophages Targeting Gut Bacteria Research Assistant

University of Science and Technology of China, Prof. Yi Duan 01/2023 – 05/2024

- Established an improved *in vitro* culture system for *Akkermansia muciniphila*, eliminating *Cutibacterium acnes* contamination.
- Isolated and purified Akk-targeting phages from wastewater, laying the foundation for a gut microbiome phage library.
- Awarded as an outstanding school-level project.

Biodegradable Needles for Transdermal Delivery Research Assistant

Suzhou Institute for Advanced Research, Prof. Xiaorong Xu 11/2022 – 09/2023

- Conducted finite element simulations using COMSOL and Abaqus.
- Designed and optimized long microneedles for treating deep tissue infections.
- Developed a novel injection molding method for manufacturing complex microneedle structures.
- Project rated as an outstanding school-level project; a patent application is under review.

Isolation of Cyanobacteria and Cyanophages from Lake Chaohu Research Assistant

Laboratory of Biochemistry & Structural Biology, Prof. Congzhao Zhou 09/2022 – 06/2023

- Isolated three strains of cyanobacteria and corresponding cyanophages from Lake Chaohu samples.
- Awarded at the National University Life Science Competition in 2023.

Awards

- Outstanding School-Level Project: Undergraduate Innovation and Entrepreneurship Training Program 2024
- Outstanding School-Level Project: College Student Research Program 2023
- 8th National University Life Science Competition, A Prize 2023
- Outstanding Undergraduate Scholarship 2024, 2023, 2022, 2021

Skills

Programming Languages: Python, C/C++, Matlab
Tools and Frameworks: HuggingFace, PyTorch, Git, LaTeX