Jieke(Jack) Wu

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Education

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

School of Life Science, major in Biotechnology

- GPA:3.41/4.30,Rank:27/90
- Core Courses:
  Linear Algebra B1(90/100);Electromagnetism B;(90/100); Undergraduate Research Project(A+);
  Undergraduate Innovation and Entrepreneurship Training Program(A+)

Experience

Hierarchical transformer for genomics Research Assistant

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

- Investigating Concealed Information within DNA Sequences using Deep Learning.
- Exploring how to enhance the model's perception of DNA information by integrating the global and local information of DNA sequences.

Training-free Design of Data-centric Augmentations with Principles Research Assistant

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

- Explored the influence of various image augmentation methods on the recognition accuracy of common deep learning networks.
- Explored the relationship between data covariance properties and image recognition accuracy.
- Summarized the evaluation of various image augmentation methods on different medical imaging datasets.

Isolation of bacteriophages targeting gut bacteria Research Assistant

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

- This study established an improved in vitro culture system for *Akkermansia muciniphila* (Akk), simplifying and enhancing the user-friendliness compared to previous systems, while also eliminating *Cutibacterium acnes* contamination.
- We successfully isolated and purified Akk-targeting phages from wastewater, facilitating the development of a phage library for gut microbiome research.
- The constructed phage library enables targeted Akk knockdown or knockout, advancing our understanding of Akk's role in gut-related diseases and providing a technological platform for future gut microbiota studies.
- This project was rated as an excellent school-level project that year.

Biodegradable needles for transdermal delivery in biofilm-infected chronic wounds Research Assistant

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

- Proficiency in finite element simulation software (COMSOL and Abaqus) for conducting simulation tasks.
- Designed a long needle for the treatment of deep-seated tissue infections.
- Introduced a novel injection molding method for the cost-effective and convenient production of long or microneedles with complex geometrical structures.
- This project was rated as an excellent school-level project that year.

Isolation and identification of cyanobacteria and cyanophages from Lake Chaohu Research Assistant

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

- Successfully isolated three strains of cyanobacteria from Lake Chaohu water samples.
- Conducted a genomic analysis of these three cyanobacteria strains, thereby determining their taxonomic classification.
- Isolated some cyanophages from Lake Chaohu water samples using these isolated cyanobacteria strains.
- Thanks to this work, we received an award at the National University Life Science Competition in the same year.

Selected Awards

- Outstanding School-Level Project: College Student Research Program 2023
- A Prize in the 8th National University Life Science Competition 2023

- Outstanding Undergraduate Scholarship 2023, 2022, 2021

Skills

Programming Languages: Python, C/C++, Matlab (ranked by proficiency)
Tools and Frameworks: Git, LaTeX, PyTorch, HuggingFace