

# JIEKE(JACK) WU

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## EDUCATION

<b>University of Science and Technology of China, Hefei, China</b>	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

<b>Hierarchical transformer for genomics</b>	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.	
<b>Training-free Design of Data-centric Augmentations with Principles</b>	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.	
<b>Isolation of bacteriophages targeting gut bacteria</b>	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 <i>Akkermansia muciniphila</i> (Akk), simplifying and enhancing the user-friendliness compared to previous systems, while also eliminating <i>Cutibacterium acnes</i> 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.	
<b>Biodegradable needles for transdermal delivery in biofilm-infected chronic wounds</b>	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.	
<b>Isolation and identification of cyanobacteria and cyanophages from Lake Chaohu</b>	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: Undergraduate Innovation and Entrepreneurship Training Program	2024
• Outstanding School-Level Project: College Student Research Program	2023

- A Prize in the 8th National University Life Science Competition2023
- Outstanding Undergraduate Scholarship2023, 2022, 2021

## SKILLS

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**Programming Languages:** Python, C/C++, Matlab (ranked by proficiency)

**Tools and Frameworks:** HuggingFace, PyTorch, Git,  $\text{\LaTeX}$ (sorted by usage frequency)