JIEKE WU

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EDUCATION

University of Science and Technology of China, Hefei, China

08/2021 - 06/2025 (expected)

A third-year undergraduate student at the Department of Life Sciences and Medicine

The Middle School Attached To Northwestern Polytechnical University, Xi'an, China

08/2018 -

06/2021

EXPERIENCE

Research on benign overfitting in computer vision

Research Assistant

UC Berkeley, Dr. Wuyang Chen

06/2023 – present

- Exploring the Influence of Various Image Augmentation Methods on the Recognition Accuracy of Common Deep Learning Networks.
- Exploring the Relationship between Data Covariance Properties and Image Recognition Accuracy.
- Summarizing 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 – present

- Learning techniques related to animal experiments.
- Learning basic biochemical laboratory techniques.

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.
 - Utilized Abaqus to simulate the process of needle insertion into the skin.
 - Utilized Comsol to optimize material selection and the geometric shape of the needle.
- Designed a long-needle for the treatment of deep-seated tissue infections.
 - The design of this long needle was inspired by the mouthparts structure of insects such as mosquitoes and ticks.
 - This long needle inherits the advantages of microneedles and compensates for their limitations in terms of depth.
- Introduced a novel injection molding method for the cost-effective and convenient production of long or microneedles with complex geometrical structures.
 - A heterogeneous model that allows simultaneous consideration of needle puncture strength and structural flexibility.

Isolation and identification of cyanobacteria and cyanophages from Lake Chaohu

Research Assistant

Laboratory of Biochemistry & Structural Biology, Prof.Congzhao Zhou

09/2022 - 06/2023

- Studied fundamentals and principles of bioinformatics, with a focus on genome analysis techniques.
- Successfully isolated three strains of cyanobacteria from Chaohu Lake water samples.
- Conducted a genomic analysis of these three cyanobacteria strains, thereby determining their taxonomic classification.
- Isolated some cyanophages from Chaohu Lake water samples using these isolated cyanobacteria strains.
- Observed the morphology of these cyanophages under an electron microscope.
- Thanks to this work, we received an award at the National University Life Science Competition in the same year.

SELECTED AWARDS

• 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