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.

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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.

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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.

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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