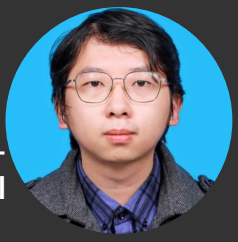
ZHAOJI ZHANG



I am Zhaoji Zhang (张兆骥), Graduate student in Integrated Life Sciences at Peking University, with a background in Chemical Biology and AI. Interested in neuroscience and visual processing at the circuit and system levels.

CONTACT&INFORMATION

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My Homepage
@Zhang-Zhaoji
0009-0002-3293-1961
My Wechat Public Account
My BiliBili Account
My Undergraduate Transcript

SKILLS

Programming

Python
C++
LaTeX
MATLAB
R

Operating Systems

Windows
Linux(WSL/SSH)

Software & Tools

Deep-learning
Visualisation
(e.g. matplotlib, gnuplot, ...)
Data handling/analysis
(e.g. numpy, scipy, pandas, ...)
Office
Docker

Languages

Mandarin
English
French
German
Japanese

CERTIFICATES

TOEFL 101
Driving License

EDUCATION BACKGROUND

09/2021 - 07/2025
College of Chemistry and Molecular Engineering
Peking University

Bachelor of Science in Chemical Biology
Bachelor of Science in Intelligence Science and Technology

09/2025 -
Center for Life Science (CLS), Academy for Advanced Interdisciplinary Studies
Peking University

Integrated Life Science

08/2024
Lady Margaret Hall Summer School
Oxford University
The Computational Psychology and Artificial Intelligence Programme

RESEARCH EXPERIENCE

11/2023-09/2025
Yatang Li's Lab, Chinese Institute for Brain Research (CIBR), Beijing
Intern Student

Participated in the writing of the paper Preference-independent saliency map in the mouse superior colliculus, mainly involved in the work of neural simulation in the paper. The modeling method was mainly based on Li Zhaoping's method proposed in 1998 and the LIF model. The model is used to simulate the activity of mouse surface superior colliculus neurons, achieving a one-dimensional bottom-up saliency map simulation. The source code is published on GitHub.
The work is published on Commun Biol 8, 565 (2025). https://doi.org/10.1038/s42003-025-08006-x

Currently, I am developing a real-time, biologically-plausible, bottom-up video-saliency algorithm in Yatang Li's lab. Our state-of-the-art model has been accepted as a poster abstract at CNS 2025 (Z. Zhang & Y. Li, "A Biological Plausible Algorithm for Video Saliency Detection").

I Published a Python implementation of Itti's Saliency map, an efficient way to compute 2D-image Gabor transform (in Python and compiled C++ library) and a jit-complied efficient Lévy flight transfo -rmation model, and a OCR recognized dataset of Chinese State Council Gazette(1954-1999) (国务院公报) to boost quantitative researches on Chinese government.
All these codes and datasets could be found on my Github homepage.

OTHER EXPERIENCES

Projects

Medical Image Segmentation: Fine-tuned the Segment Anything Model (SAM) on the BTCV dataset for abdominal organ segmentation. [GitHub]

Multi-Agent RL: Developed a multi-agent reinforcement learning system for cooperative gameplay in *Honor of Kings*.

Natural Language Processing Developed a Zhuang-Chinese low-material machine-translation algorithm through Qwen 2.5-max. [GitHub]

Neural Signal Decoding: Implemented algorithms for decoding calcium imaging data to infer neural activity patterns. [GitHub]

Laboratory Skills

Proficient in standard laboratory techniques in inorganic/organic chemistry, biochemistry, and molecular biology.