

ZHAOJI ZHANG



I am Zhaoji Zhang (张兆骥), Graduate student in Integrated Life Sciences at Center for Life Science(PKU-THU), with Dual Degree in Chemical Biology and AI. Interested in neuroscience and visual processing at the circuit and system levels.

CONTACT&INFORMATION

- ✉ zhang-zj@stu.pku.edu.cn
- ☎ +86 183 9453 1911
- 🎓 student id: 2501111571
- 📍 Peking Univ., 5 Yiheyuan Road, Yanyuan Street Haidian district, Beijing, China
- 🏠 My Homepage
- 📧 @Zhang-Zhaoji
- 🆔 0009-0002-3293-1961
- 💬 My Wechat Public Account
- 📺 My Bilibili Account
- 📋 My Undergraduate Transcript

SKILLS

Programming

Python ●●●●●●
C++ ●●●●●●
TeX ●●●●●●
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), a jit-compiled efficient Lévy flight transformation 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 and policies.
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.