

# Zhang Zhaoji (张兆骥)

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TOEFL 101 | male

## Education background

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### University Peking university

Major in Biological Chemistry, double major in artificial intelligence 2021.9 - 2025.7

- GPA: 3.646/4.0
- Awards: Academic Excellence Award (2021)
- Related Courses:  
Major: Molecular Biology, Cell Biology, Fundamentals of Life Chemistry , Neurology, Chemical Biology, Chemical Biology Lab, Integrated Chemical Biology Lab...  
Double Major: Computational Perception and Scene Analysis, Computer Vision, Machine Learning, Numerical Methods, Introduction to Multi-Agent Systems...
- Proficient in Python and R
- Know Basic Française, Deutsch

Lady Margaret Hall Summer School, Oxford 2024.8

- Attend Computational Psychology and Artificial Intelligence Programme Course at LMH
- Earned all A grades in the course, which are recommended for the award of 15 CATS credits, equivalent to 7.5 ECTS or 4 US Credits, as recognized by LMH.

## Research experiences

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Yatang Li's Lab, Chinese Institute for Brain Research (CIBR), Beijing

Intern Student 2023.11 -

- Participated in the writing of the paper *Feature independent encoding of visual salience in the mouse superior colliculus* (DOI: [10.1101/2024.03.04.583246](https://doi.org/10.1101/2024.03.04.583246)), 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 mainly used to simulate the activity of mouse surface superior colliculus neurons, achieving a one-dimensional bottom-up saliency map simulation.
- Source code is published on GitHub (<https://github.com/yatangli/2p-modeling>).
- Currently Participating in designing algorithm of Real-time Biological Plausible Bottom-Up Video Saliency Prediction Project in Yatang Li's lab.
- Published a Python implementation of Itti's Saliency map and an efficient way to compute 2D-image Gabor transform (in Python and C++) on Github, achieving computation times under ten milliseconds.

Multi-Agent SystemTerm Project

Qmix-Curiosity based MARL algorithm on King of Glory Game 2024.6-2024.7

- We trained Qmix based multi-agent algorithms on Kaiwu platform, a MOBA-game (King of Glory, 王者荣耀 in Chinese) engine held by Tencent. To solve Lazy-Agent Problem, we introduced curiosity networks to evaluate surprise of agents to encourage more exploration.
- Due to non-disclosure agreements, specific details and code cannot be shared publicly. However, we could deliver a technical report if requested.

## Machine Learning term project

Finetuning Segregate Anything Model (SAM) on Medical imaging dataset BTCV

2023.11-2024.1

- Achieved SAM 2d-segmentation on Medical imaging dataset BTCV using mDice loss, and finetuned SAM on training sets. Finetuned model show better performance in test sets especially for formal worst cases.
  - Open Source code and Report could be found at <https://github.com/Zhang-Zhaoji/PKUML-termproject-SAM>

## Computer Vision Term Project

Style Transfer: Laplacian, Depth loss and AdaIN

2023.12-2024.1

- Together with teammates, replicated the neural style transfer algorithm and AdaIN algorithm proposed by Gatys, Tianqi Chen, Li Shaohua, and others. We proposed and trained a new neural style transfer algorithm that incorporates Laplacian loss and Depth loss in the AdaIN framework, achieving clearer details and considering depth loss in neural style transfer.
- Open source release of code and English papers on [https://github.com/Zhang-Zhaoji/computer\\_vision\\_term\\_project](https://github.com/Zhang-Zhaoji/computer_vision_term_project)

## Extracurricular activities

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### Peking University Student Harmonica Association (北京大学学生口琴协会)

Treasurer

2023.9 – 2024.7

Participated in coordinating Li Rang's special harmonica concert at Peking University and the club's new student concert, responsible for organizing and spending on general club activities

### The Student Union of College of Chemistry and Molecular Engineering, Peking University

Staff in New Media Department

2021.9 – 2022.9

- Participated in ticket design for the New Year's Eve party of the Student Union and event organization, video live streaming, and article writing in other activities.

## Other Interests and Skills

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- Sketch level 10 recognized by CHINA ACADEMY OF ART
- Run Wechat account and Bilibili(video social platform) account with friends.
- Play Not bad harmonica
- Interested in learning different languages
- Willing to learn knowledges of Single-Chip Microcomputer and other DIY skills