

Zheng Sirui

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EDUCATION

Shanghai Jiao Tong University	Fall 2026 (expected)
Incoming M.S. Student in Biomedical Engineering	Shanghai, China
Zhengzhou University	Sep 2022 - Jun 2026
School of Life Science Bioinformatics	Zhengzhou, China
<ul style="list-style-type: none">• Cumulative GPA: 3.85/4.00 Ranking: 1/67 (top1%)• Relevant coursework: achieved GPA 4.0 in all the theoretical courses about Chemistry, Physics and Math Proteomics 100, Biochemistry (I) 97, Biochemistry(II) 97, Python 91, Principles of database 96, LINUX operating system 95, R language 94, Computational biology 95, Probability Theory and Mathematical Statistics 96, College Physics B 95, Genetics 94, Immunology 94, Cell Biology 91, Molecular biology 91, Animal Biology 91, Botany 90, Inorganic chemistry and Chemical analysis 91, Calculus A (I) 92, Linear Algebra 91, Calculus A (II) 90	

SUMMER COURSES

IBRO-CIBR-CLS-IDG Neuroscience Summer School	Aug 2024
CIBR-CLS-IDG	Beijing, China
<ul style="list-style-type: none">• Engaged in seminars with top experts in the field and won the Second Prize in the Literature Presentation Competition	
National University of Singapore “Chemistry in Life” Summer Course	Jul 2024
DBS (Department of Biological Science), FoS	Singapore
<ul style="list-style-type: none">• Final mark: 87 A (Top 1 among students from Zhengzhou University with 12 points ahead of the second-place student)	

RESEARCH EXPERIENCE

Investigating the Mechanism of Nomilin in Promoting Spinal Cord Injury Repair through Network Pharmacology and Animal Experiments	Mar 2024 - Apr 2025
National Second Prize in the 2025 National College Student Life Science Competition (CULSC)	
Position: Project Leader	Zhengzhou, China
<ul style="list-style-type: none">• Reviewed and organized literature materials, wrote the application proposal, and designed the research plan• Oversaw and led experimental tasks such as RNA-Seq, network pharmacology analysis, behavioral gait analysis, and histopathological detection analysis (immunofluorescence, Western Blot), recorded experimental data, and organized experimental results	

Analysis of PIM Gene Family in Tree Sparrows	Oct 2024 - Nov 2024
Independent Project in the course <i>Evolutionary Biology Experiments</i>	Zhengzhou, China
<ul style="list-style-type: none">• Conducted BLAST searches in TBtools by comparing tree sparrow proteins against human and chicken PIM data• Retrieved PIM proteins from UniProt and identified sparrow PIM sequences via BLAST and motif result intersections• Generated motif and SeqLogo diagrams with MEME and created gene structure and chromosomal distribution diagrams in TBtools• Built a PIM gene family phylogenetic tree using IQ-TREE and visualized it with iTOL	

Stem Cell Institute, School of Life Science, Zhengzhou University	Apr 2023 - Mar 2024
Position: Research Assistant	Zhengzhou, China
<ul style="list-style-type: none">• Contributed to the research on neuroinflammation repair under the supervision of a mentor specializing in Alzheimer’s disease (AD) model mice treatment, spinal cord injury repair, and LPS-induced neuroinflammation repair	

- Learned basic experimental techniques from graduate students and assumed the responsibility for conducting Western Blot

INTERNSHIP EXPERIENCE

Biomedical Engineering Institute, Shenzhen Bay Laboratory	Jan 2024 - Feb 2024
Position: Winter Intern (Biochemistry Group)	Shenzhen, China

Research Focus: Plasma biomarkers for early diagnosis of AD using animal models to further validate the findings

- Performed dehydration of mouse brains, responsible for configuring sucrose solution for dehydrating mouse brains, making frozen sections of dehydrated and embedded mouse brains, and photographed the fluorescence stained sections
- Conducted genotyping of 5xFAD and tau mice, responsible for adding reagents, boiling mouse tails to extract DNA, conducting PCR, loading samples for electrophoresis, and determining the genotype according to electrophoresis results
- Thawed, aliquoted and centrifuged the plasma samples from the cooperative hospital for Single Molecule Array (SiMoA) analysis

EXTRACURRICULAR EXPERIENCE

Bioinformatics Class 2, School of Life Science, Zhengzhou University	Feb 2024 - Sep 2024
Position: Class President	Zhengzhou, China

- Responsible for organizing class meetings, assisting teachers in communicating with students and monitoring their learning progress, and providing timely support and guidance to those who faced challenges

Experiments of Animal Biology, School of Life Science, Zhengzhou University	Mar 2024 - Jun 2024
Position: Teaching Assistant	Zhengzhou, China

- Provided students with detailed explanations of the animals and equipment used in experiments as well as the underlying biological principles and background information
- Answered students' questions and assisted them in completing the experimental tasks

HONORS & QUALIFICATIONS

- **Xiaomi Scholarship** Zhengzhou University (selected from over 70,000 undergraduate and graduate students; 40 recipients) in 2026
- **Second Prize (National Level)** China Undergraduate Life Science Competition in 2025
- **Mitacs-CSC Globalink Research Award** (<200 awardees from universities in China) in 2025 (Host University: McGill University)
- **First-class Scholarship** of Zhengzhou University in 2023 & 2024 & 2025 (top 5%)
- **Merit Student** of Zhengzhou University in 2023 & 2024 & 2025 (top 15%)
- **Provincial Excellence Award** in the National English Competition for College Students (NECCS) in 2023
- **TOEFL:** 96 (R26 L24 S22 W24)

SKILLS & INTERESTS

- **Programming Languages:** Python, R, Perl, SQL
- **Dry Laboratory Skills:** Network Pharmacology Analysis, RNA-Seq
- **Laboratory Skills:** Western Blot, Immunofluorescence, Genotyping, RT-PCR, SiMoA, ELISA, RNA Isolation & Quantitation, Mouse Gavage, Cardiac Blood Collection, Mouse Tissue and Organ Fixation and Harvesting, Spinal Cord Injury Modeling
- **Research Interests:** AI4S, Alzheimer's disease, Immunology, Biochemistry, Bioinformatics, Biostatistics
- **Hobbies:** Drawing, Jazz Dance, Singing