CHARLIE LI

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EDUCATION

Washington University in St. Louis | St. Louis, MO

Major in Computational Biology and Computer Science, Minor in Chemistry   Expected: May 2027
- GPA: 4.00/4.00
- Sample Coursework: Biochemistry, Endocrinology, Statistics and Data Analysis, Software Development, Rapid Prototype Development

RESEARCH & CLINICAL EXPERIENCE

Losos Lab

https://sites.wustl.edu/losos/

Research Assistant   Aug 2025 - Present
- Analyze gut microbiome composition of *Anolis* lizards to study the degree of determinism of their co-evolution
- Develop bioinformatics programming pipeline
- Extract and sequence microbial 16s rRNA genes from excrement

St. Louis Children's Hospital

https://pemrap.wustl.edu

Pediatric Emergency Medicine Research Associate   Jan 2025 - Present
- Screened and recruited ~300 patients to clinical studies
- Clinical research study design, data collection, research ethics
- Patient and family communication

Held Lab

http://www.heldlab.org

Research Assistant   Jan 2024 - May 2025
- CryptoCache Project: Developed pythonic pipeline for residue-scale crypticity (solvent exposure dynamics) analysis across the entire Protein Data Bank. Explored correlation of residue modifications and crypticity. Characterization of protein domains with differing residue dynamics.
- Molecular Dynamics: Python analysis of GABA receptor redox regulation by MD simulation. Determined key features correlating with receptor opening using PCA. Trajectory manipulation and mechanism exploration using MDAnalysis.

VOLUNTEER & SHADOWING

World Bird Sanctuary

Volunteer Birdkeeper   May 2024 - Present
- Fed and cared for injured birds of prey
- Helped with maintenance of habitats like raking and weeding
- Promoting raptor knowledge to kids and visitors

Barnes Jewish Hospital

Volunteer for Cardiovascular Procedure Center   Aug 2024 - Aug 2025
- Wheel discharged patients to their cars
- Coordinate with nurses for family visits; help families navigate the hospital
- Register the patients

Shadowing in the ED   May 2024 - Aug 2024
- Shadowed physicians of the Emergency Department 4 hours per week

ACTIVITIES

WashU Stem Education Association

https://wuct.wustl.edu

Question Writing Committee Co-Chair   Aug 2023 - Present
- Organize weekly question writing meetings and coordinate tasks and progress over the semester
- Craft questions for WashU Chemistry Tournament (WUCT), an annual contest for high school students

- Organize tournament day activities and grade exams

SKILLS / AWARDS

Skills:
- **Programming:** Python, R, Data Analysis, Molecular Dynamics, C++, Java, HTML/CSS/JavaScript, SQL, PHP, Linux Commandline, Git...
- **Lab:** Basic Biology and Chemistry Lab Operations
- **Languages:** fluent in English and Chinese

Awards:
- Dean's List (FL23, SP24, FL24, SP25)