Zhijiang Ye

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EDUCATION

Emory University, Atlanta, GA — 08/2022 - 05/2026 *(Expected)*
- *(Current)* Cumulative GPA: 3.992/4.000
- Bachelor of Science in Biology: *(Current)* Major GPA: 4.000/4.000
- Bachelor of Science in Applied Mathematics: *(Current)* Major GPA: 4.000/4.000

RESEARCH EXPERIENCE

Sarafianos Lab, Laboratory of Biochemical Pharmacology, Emory School of Medicine — *Atlanta, GA*
Principal investigator: Dr. Stefan G. Sarafianos
Supervisor: PhD. William M. McFadden

HIV-1 Capsid Protein Research — *01/2024 - Now*
- Conducted TSA, protein assembly assays, plasmid purification and other relevant assays on HIV-1 CA121 capsid proteins to analyze binding disruption with inhibitors (Lenacapavir, PF74)
- Advanced research on capsid protein roles in viral life cycles and supported novel antiviral drug development

Hepatitis B Virus Protein Analysis — *10/2023 - 12/2023*
- Conducted data extraction and curation for protein analysis by manually compiling UniProt IDs and references from academic tables for Hepatitis B Virus-related proteins

Laboratory Training and Techniques — *10/2023 - 01/2024*
- Trained in fundamental biological and biochemical laboratory techniques and rigorous laboratory conducts

PUBLICATIONS

He, E., **Ye, Z.**, & Zou, C. (2025). "Quantitative Hybrid Structure Analysis of Equipment Wear under Dynamic Pressure based on Digital Intelligent Algorithm." *2025 3rd International Conference on Data Science and Information System (ICDSIS)*, May 16-17, 2025. DOI: 10.1109/ICDSIS65355.2025.11071008

- *Co-developed the SSFP, HEW, and HEWAN models, including mathematical formulation and physical interpretation, with primary responsibility for conceptualizing the beam-like stair structure, enabling a more realistic simulation of wear processes under dynamic pressure*
- *Led the development of model visualizations and scientific figures, designing original illustrations and simulation results to clearly communicate the practical impact and applicability of the new predictive methodology.*

PROFESSIONAL EXPERIENCE

Researcher in Summer Internship — 07/2025 - 08/2025
Junkipedia, Project of National Conference on Citizenship — *Atlanta, GA (Hybrid)*
- something

LEADERSHIP & SERVICE EXPERIENCE

Undergraduate Volunteer, Winship Cancer Institute Department of Hematology 08/2024 - 05/2025
Winship Cancer Institute *Atlanta, GA*
- Helped move lab samples from the hematology clinic to the processing lab
- Collaborated with medical providers, providing compassionate support in a fast-paced clinical environment

Teaching Assistant, Emory University Department of Biology 08/2023 - 12/2024
Emory University *Atlanta, GA*
- Guided students in introductionary biology lab course sequences, assisting with experiment setup, concept explanation, and ensuring safe and accurate lab techniques
- Facilitated lab sessions through concept discussions, material preparation, and supervision, reinforcing lab skills and procedural adherence

Secretary, Emory University MatheMatics Association (EUMMA) 03/2023 - Now
Emory University *Atlanta, GA*
- Scheduled events, managed organizational calendars, and sent timely reminders to ensure high engagement and smooth operation of activities
- Prepared thorough and detailed meeting minutes, and communicated board decisions effectively to all association members

Peer Mentor, Emory Chinese Student Association (ECSA) 07/2023 - 12/2023
Emory University *Atlanta, GA*
- Helped freshman undergraduates and incoming transfer undergraduates in college life including sharing experience in college and academic advice
- Established a small group for mentees with similar interests and intended majors and answered questions and concerns related to college life

HONORS & AWARDS

Meritorious Winner, Mathematical Contest in Modeling (MCM)	*Spring 2025*
Fellowship Holder, Emory Pathways Global Award	*Spring 2025*
Dean's List, Emory College of Arts and Sciences	*Fall 2022, Fall 2023 - Spring 2025*
Honarable Mention, DataFest 2025, Emory College of Arts and Sciences	*Spring 2025*
Honorary Level, S.U.P High School Graduation Certificate	*Spring 2022 (Grade 12)*

PROFESSIONAL COMPETENCIES

Information Technology
- Markdown and Composition: LaTeX(scientific article, poster, and Beamer composition), Markdown (documentation and note-taking)
- Programming: Python (data analysis, mathematical and statistical operation, numerical methods, and machine learning), Java (basic syntax, OOP principles)
- Scientific Illustration and User Experience: Python visualization (Matplotlib, Seaborn, Pyplot, and related visualization packages), Adobe Photoshop, Figma

Language
- Mandarin Chinese: native
- English: fluent
- Japanese: basic

RELEVANT COURSEWORK

B.S. in Biology
- Foundation of Modern Biology I, Foundation of Modern Biology I Lab	*Fall, Freshman*
- Foundation of Modern Biology II, Foundation of Modern Biology II Lab	*Spring, Freshman*
- General Chemistry I, General Chemistry I Lab	*Fall, Sophomore*

- General Chemistry II, General Chemistry II Lab, Human Physiology *Spring, Sophomore*
- Organic Chemistry I, Organic Chemistry I Lab *Summer, Sophomore*
- Organic Chemistry II, Organismal Form and Function *Fall, Junior*
- Organic Chemistry II Lab, Cell Biology, Biochemistry *Spring, Junior*
- Evolutionary Biology, Building Brains, Biotech and Molecular Biology *Fall, Senior (Tentative)*

B.S. in Applied Mathematics
- Linear Algebra (Honors), Ordinary Differential Equation *Fall, Freshman*
- Multivariable Calculus and Discrete Math (Honors), Intro to Computer Science I *Spring, Freshman*
- Mathematical Statistics I, Programming for Math of Data Science (Python) *Fall, Sophomore*
- Mathematical Statistics II, Partial Differential Equation, General Physics (E&M) *Spring, Sophomore*
- Numerical Analysis *Fall, Junior*
- Numerical Differential Equation, Intro to Computer Science II *Spring, Junior*
- Probabilistic Machine Learning *Fall, Senior (Tentative)*