

# Lianhao Zheng

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## EDUCATION

### Northwestern University

Evanston, IL

*Concurrent B.A. and M.S. in **Computer Science**, Minor in **Data Science***

*Expected June 2026*

- GPA: **3.81/4.00** | Dean's List (**4/4**) | QuestBridge Scholar | LEDA Career Fellow | NU Bioscientist Grant Award | CodePath Career Preparation Fellow | Meta Above and Beyond Computer Science Fellow
- **Relevant Coursework:** Data Structures & Algorithms, Artificial Intelligence, Design & Analysis of Algorithms, Computer Systems, Generative Methods, Scalable Software Architectures

## TECHNICAL SKILLS

**Languages:** Python, C, C++, JavaScript, Bash, SQL

**Software/Tools:** React, React-Native, Node.js, Three.js, p5.js, Tailwind CSS, Unix, AWS, Expo, Git

**Libraries:** Pandas, NumPy, Matplotlib

## PROJECTS

### Personal Website | *React, Tailwind CSS, Netlify*

- Leveraged Three.js and React Three Fiber to develop immersive 3D graphics, Framer Motion for animations, and Tailwind CSS for more visually appealing design
- Incorporated responsive design techniques and optimization techniques like Suspense and Preload

### Mask Up | *FaceMesh Detection API, JavaScript, Git*

- Architected a Face tracker that utilizes Face mesh detection API to create masks that follows user movements
- Utilized P5.js and Vue.js to incorporate animations and interactive graphics, elevating the website's visual appeal and enhancing user experience

## PROFESSIONAL EXPERIENCE

### Software Engineer

Jan. 2024 – Present

*Institute of Electrical and Electronics Engineers*

*Evanston, IL*

- Engineered a mobile application using React Native and Expo Go to address the problem of students lacking real-time information on campus occupancy levels
- Implemented the frontend of the app, including a campus map with location markers, building profiles, and an status update page
- Assembled the backend using Flask and MySQL, enabling user signup, login, and storage of crowdedness information with timestamps
- Directed a pilot study on 100+ users, gathered feedback, and made improvements based on user preferences

### Undergraduate Teaching Assistant

Sep. 2023 – Dec. 2023

*Northwestern University Department of Computer Science*

*Evanston, IL*

- Advised 400+ students in Fundamentals of Computer Programming class for 6-10 hours weekly in office hours
- Collaborated with Professor Connor Bain to give feedback on student code and examinations

### Artificial Intelligence Research Assistant

June 2023 – Aug. 2023

*Mentor: Keara Lane, PhD (The Lane Lab, Department of Molecular Biosciences)*

*Evanston, IL*

- Optimized Deep Learning models to accurately classify over 9000 tiff images of macrophages during Salmonella Typhimurium infections with a 78% accuracy rate
- Developed a Python3(Numpy, Matplotlib, Pandas) and Jython/Fiji-ImageJ based pipeline, leveraged Globus Data Management and High Performance Computing Clusters (HPC) to streamlining bioimage analysis workflows
- Created Bash Scripts to automate workflows for parallel image processing and analysis on HPC, utilizing Git and GitHub version control to facilitate collaboration on the codebase
- Performed a comprehensive analysis of the current research landscape for *Applying Deep Learning Algorithms To Track Cells In Time Lapse Microscopy* Project, and presented in the Annual Undergraduate Research Symposium