

Haojun Ma

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EDUCATION

University of California, Berkeley

Berkeley, CA, USA

Visiting Student

Aug 2025 - Dec 2025

Relevant coursework: CS 61C Machine Structures | CS 162 Operating Systems and System Programming | CS 188 Introduction to Artificial Intelligence

Zhejiang University

Hangzhou, Zhejiang, China

Bachelor of Science in Software Engineering

Expected June 2027

Relevant coursework: Fundamentals of C Programming | Fundamentals of Python Programming | Database Systems | Calculus | Linear Algebra | Discrete Mathematics and Its Applications | University Physics | Image Information Processing | Object-Oriented Programming | Fundamentals of Data Structures | Advanced Data Structures and Algorithms | Fundamentals of Software Engineering | Microeconomics | Accounting | Foundation of Education

RESEARCH EXPERIENCE

Real-Time Sign Language to Text Translation iOS App

Hangzhou, China

College of Computer Science and Technology, Zhejiang University

Sep 2025 – Present

Undergraduate Researcher

- Lead a team of 3 undergraduates and communicate with graduate collaborators and the Principal Investigator.
- Conduct a comprehensive review of 20+ papers to analyze state-of-the-art techniques in sign language recognition.
- Develop an iOS application from the ground up using Swift and Xcode for real-time sign language translation, including a user interface for uploading new vocabulary.
- Refine the online continuous sign language translation algorithm.

Interactive Dashboard for CHI Social Media Research

Hangzhou, China

College of Computer Science and Technology, Zhejiang University

May 2025 – Jun 2025

Undergraduate Researcher

Github link: <https://github.com/kkzyu/CHI>

- Developed a web-based, interactive visualization dashboard to systematically explore and analyze academic papers from the ACM CHI Conference related to social media. Collaborated within a three-person team following a Git feature-branch workflow.
- Designed and implemented the "Overview Panel," a primary dashboard component that provides users with high-level statistical insights into the research data through interactive stacked bar charts and pie charts.
- Engineered the core cross-view interactivity logic. This feature allows users to dynamically filter and update the main Sankey relationship diagram by clicking on the statistical charts, creating an intuitive and seamless data exploration workflow.

- Contributed to the frontend architecture using Vue 3, TypeScript, and Vite, ensuring component reusability and a maintainable codebase.

Comparative Analysis of NLP Models for Sentiment Classification Hangzhou, China
Independent Research Project (led by a Stanford University Ph.D.) *Feb 2024 – Mar 2024*

- Selected an IMDb movie review dataset and implemented a text preprocessing pipeline using Pandas and Gensim to clean, tokenize, stem, and prepare the text data for modeling.
- Replicated and systematically evaluated a range of models, from classical algorithms like Logistic Regression and Random Forest to more complex neural networks, analyzing their performance through hyperparameter tuning.
- Achieved a peak accuracy of 89.3% with a fine-tuned Logistic Regression and TF-IDF model, validating the results with multiple metrics including AUROC, AUPRC, and F1-score.
- Generated key visualizations to interpret model behavior, including t-SNE plots to understand feature space and word clouds to identify impactful terms for each sentiment class.

SKILLS & LANGUAGES

Technical Skills:

- **C/C++:** Proficient in low-level systems programming. Experience includes implementing system calls for the Pintos operating system and debugging complex race conditions in multi-threaded environment. Developed a B+ tree for a MiniSQL database project in C++.
- **Python :** Experienced in scripting, data handling (JSON), and implementing AI algorithms. Applied Python in a Reinforcement Learning project and for writing test scripts.
- **SQL:** Skilled in relational database querying and management. Possess a deep understanding of database internals from a MiniSQL project.
- **Swift:** Foundational knowledge of iOS application development.

Personal Interests:

- **Editing:** Self-taught in DaVinci Resolve; done some editing for my favorite films and vlogs.
- **Guzheng(Chinese Zither):** 12 years of practice; evolved from a forced discipline into a genuine lifelong interest.

Languages: Chinese (native), English (fluent)

ACTIVITIES

Attendee, Apsara Conference 2024 Hangzhou, China
Hosted by Alibaba Cloud *Sep 2024*

Attended Alibaba's annual technology summit to explore the latest developments in Generative AI (GenAI), cloud computing, and AI-native applications through technical forums, exhibitions, and keynote presentations.

Summer Teaching Volunteer & Social Researcher Zhongwei, China
On behalf of Chu Kochen Honors College, Zhejiang University *Jul 2023 – Aug 2023*

Led the Chinese poetry curriculum for an elementary school summer program while concurrently participating in a social research project that analyzed the integration of folk culture and the local tourism industry through field investigation.