Haiyue Zhang

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Education

Columbia University New York, NY
M.S. in Computer Science *Sep 2024 - Expected Dec 2025*

University of Illinois Urbana-Champaign Champaign, IL
B.S. in Computer Science + Statistics, Minor in Mathematics *Aug 2020 - May 2024*

- GPA: 3.93/4.0
- Award: Highest Distinction STAT/CS, Cum Laude(Top 12%), Dean List(Top 20%)

Work Experiences

Microsoft May 2024 - Aug 2024
Intern, Machine Learning Engineer *Shanghai, China*

- Established baseline with several machine unlearning techniques such as Split learning, Certified Data Removal to "forget" data from trained models (logistic regression, LSTM, MLP) on time series, tabular, and image datasets
- Developed machine unlearning framework on hospital's system, elevating clinical data privacy by enabling data deletion and verifying unlearning effectiveness in trained models, while maintaining approximately 80% accuracy

Columbia Build Lab Sep 2024 - Present
Intern, Software Engineer *New York, NY*

- Deployed an advanced recommendation system on AWS to provide personalized furnishing suggestions, offering customers a seamless design experience based on user style preferences and design best practices

Innova AI Tech LLC Feb 2024 - May 2024
Intern, Software Engineer *Remote*

- Created an AWS-based job recommendation web service. Built an interactive front-end using HTML, CSS, JavaScript, and AJAX. Created RESTful Java servlets for back-end, deployed on Amazon EC2. Designed MySQL database on Amazon RDS and integrated external APIs for keyword extraction. Executed content-based recommendation algorithms for personalized job suggestions

DAQO Electrical Institute Co.,Ltd Summer 2020 & 2021
Intern, Software Engineer *Nanjing, China*

- Built and deployed a SCADA/EMS monitoring platform on Alibaba Cloud for transformer substations, enabling real-time fault detection. Used CSS, HTML, and JavaScript to create interactive web-based data visualizations
- Resulted in a significant 25% increase in order volume and a notable 20% reduction in product fault rates

Research and Project Experiences

IRisk Lab Research Assistant Aug 2023 - Dec 2023
University of Illinois Urbana-Champaign, Mentors: Prof. Frank Quan *Champaign, IL*

- Implemented and compared various optimization techniques, including Google OR-Tools, PyVRP, VRPy, and strategies from Amazon, to amplify delivery efficiency and reduce costs for a top-tier pharmacy company
- Leveraged Map API to capture real-world transit data and duration to generate distance/time matrix for models
- Crafted innovative graph algorithms to optimize routes, reduce fuel use, and elevate delivery efficiency

Undergraduate Research Assistant May 2023 - Aug 2023
The University of Science and Technology of China, Mentors: Prof. Xiangyang Li, Qi Song *Hefei, Anhui, China*

- Applied on integrating Knowledge Graphs into Large Language Models to enhance LLM's reasoning capabilities
- Reached with embedding KG into LLM with a priority to maintain and optimize LLM model sophistication
- Utilized knowledge augmentation, refining LLMs' embedding and KGs for pre-training enhancements, and developed the KEFF framework with modules for knowledge enhancement and filtering

Web-based scheduling Application: Parachute Jan 2023 - Dec 2023

- Employed as a fullstack engineer, builting Parachute.fyi, an advanced web-based scheduling tool eclipsing when2meet.com by providing a sophisticated user interface and authentication system, employing cutting-edge technologies including React, Next.js, TypeScript, Prisma, tRPC, and PostgreSQL, accessible at https://parachute.fyi

Technical Skills

Languages: English (Professional fluency), Mandarin (Native fluency)
Developer Tools: Python, MySQL, OCaml, React, Typescript, JavaScript, MongoDB, C++, C, Java, R studio
Skills: Programming, UI/UX Design, Photography, Video Editing, 3D Modelling, Guitar playing