WEIZHEN (Alan) ZHOU

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EDUCATION

New York University, NY, USA **Sep 2024 – May 2026**

Master of Science in Computer Engineering | Major GPA: 3.85/4.0

Relevant Course: Advanced Topics in Computer Vision, High Performance Machine Learning, Deep Learning, Computer Architecture(C++,C,RISC-V), Java(Spring Boot), Database (SQL, Java, Oracle), Machine Learning, Internet Architecture & Protocols, Network Security

ShanghaiTech University, Shanghai, China **Sep 2020 – Jun 2024**

Bachelor of Engineering in Computer Science | Major GPA: 3.61/4.0

Relevant Course: Algorithm and Data Structure(C++), Probability and Statistics, Signals and Systems(Matlab), Computer Architecture(C, RISC-V), Artificial Intelligence(Python), Numerical Optimization, Machine Learning, Digital Circuit, Computer Vision(OpenCV, PyTorch), Deep Learning, Natural Language Process, Algorithm Design and Analysis

SKILLS

Programming: Python(Pytorch/OpenCV), Java(SpringBoot), C, C++, SQL (MySQL/Oracle), MATLAB, RISC-V, R
Application: HPC, Slurm,Git, Linux Shell, Wireshark, Matlab, Oracle, MeshLab, Motive, Latex, Amplide
Interest: Multimodal Learning, Object Oriented Learning, AI, ML, Computer Vision, Database System and Backend

EXPERIENCE

Research Assistant | CILVR Lab, New York University **Mar 2025 - Present**

- Dedicated to egocentric multimodal learning and object-centric learning.

Teaching Assistant | New York University **Sep 2025 – Present**

- Grading assignments, holding office hours, and supporting students with projects for graduate-level engineering courses.

Research Assistant | ShanghaiTech University **Mar 2023 – Jan 2024**

- Lead to build a multi-camera capturing system (motion capture, pupil tracker, head mounted), and established a large-scale 3D hand-object interaction dataset with annotation .
- Validate dataset's accuracy and usability, demonstrating robust data alignment and high-quality annotations.
- Applied a stacked gaze-guided diffusion model for hand–object interaction and ran extensive experiments demonstrating the method's effectiveness and the dataset's unique contributions.

Software Engineer Intern | Shanghai ScenAuto Co. Ltd. | Shanghai, China **May 2023 - Aug 2023**

- Implement a real-time system measuring point cloud data from two moving LiDAR scanners, utilizing real-time filtering algorithm to ensure precise and efficient computation.
- Developed robust communication software (Python, C++) integrating with Siemens PLC via Modbus-TCP, guaranteeing reliable data exchange and synchronization.
- Leveraged MySQL for scalable data storage and retrieval within a multi-tiered architecture, enabling historical trend analysis and resource optimization.

Teaching Assistant | Machine Learning, ShanghaiTech University **Sep 2022 - Jan 2023**

- Supported student understanding the principles of machine learning and the practical use of its code.
- Assisted in preparing materials and grading assignments.

PROJECT

AI-driven recommendation and Q&A Assistant **Jan 2025 – Feb 2025**

- Developed a Q&A chatbot using LangChain, IBM Watsonx LLM and Retrieval Augment Generation.
- Maintained user historical interaction data and user profile using Slack API and Flask-based backend.
- Deployed the application using Gradio, simulating a real-world document assistant use case.

Distributed Web Crawler **Jan 2025 – Feb 2025**

- Designed and architected a Google-inspired distributed web crawler using Kubernetes, Docker, Golang, NodeJS, Redis, and
- MongoDB for scalable and fault-tolerant performance.
- Implemented a URL deduplication mechanism based on Bloom Filters and managed task distribution with Redis message queues
- to efficiently handle URLs.
- Developed the core crawling logic using BFS-based traversal, an exponential backoff retry mechanism, and integrated real-time
- monitoring with the ELK stack and Prometheus.

Tickets Booking Full-Stack Web Application **Nov 2024 – Dec 2024**

- Built a responsive and user-friendly interface using CSS, HTML, and JavaScript.
- Designed the database schema using Oracle and MySQL.
- Implemented RESTful APIs in Java to provide web service, and leveraged Spring Boot JDBC features for database query.
- Develop an AI-based interface using ChatGPT API and python scripts.

Reinforcement Learning based Meta-Path Excavation on the Yelp Dataset **Nov 2023 – Dec 2023**

- Apply a Deep Q-Network (DQN) to automatically select optimal meta-paths in a heterogeneous graph built from Yelp data.
- Reproduced and validated results from a top-tier NIPS paper, matching or surpassing the original performance benchmarks.