

# WEIZHEN (Alan) ZHOU

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## PROFESSIONAL SUMMARY

**Background:** Result oriented MS candidate in CE NYU. Specializing in programming, computer science and deep learning. Solid software engineer with strong programming, analytical and large language model skills.

**Strength:** Have a wide range of projects experience related to computer science, programming, deep learning and machine learning, with strengths in fast learning, effective communication, innovative thinking and critical thinking.

### Technical Skills:

**Programming Language:** Java, Python(Pytorch, Opencv 3yr), C(4yr), C++(4yr), Go, SQL(MySQL/Oracle), RISC-V, R(ggplot2/dply/tidymodels)

**Software:** Oracle, Meshlab, Motive, Amplide, NI Multisim, Inventor, CaptureReality

**Courses:** Deep Learning, Computer Vision, Machine Learning, Natural Language Process, Artificial Intelligence

Internet Architecture, Database Systems, Computer Architecture,

Algorithm Design and Analysis, Algorithms and Data Structures, Numerical Optimization,

**Direction:** Seeking for role in software developer engineer and data-related project.

## EDUCATION

### New York University

New York, US

Master of Computer Engineering

Sep 2024 – May 2026

### ShanghaiTech University

Shanghai, China

Bachelor of Science in Computer Science

Sep 2020 – Jun 2024

## WORK EXPERIENCE (key word)

### Gaze-Guided Long-term Hand-object Interaction Prediction

Shanghai, China

Key Laboratory of Intelligent Perception and Human-Machine Collaboration

Mar 2023 – Jan 2024

Core Member, Supervisor: Assistant Professor Jingya Wang

- Built a multi-camera capturing system, including motion capture cameras and eye tracker, multiple side views and ego view, with full calibration and synchronization across all devices.
- Create object collections for datasets and corresponding 3D rendering models, utilizing Meshlab and 3D scanner.
- Capture large-scale datasets, conduct frame by frame rendering and precise annotation, utilizing PyTroch, OpenCV.
- Train diffusion architecture model on generated datasets utilizing remote cluster.
- Validate dataset's accuracy and usability, demonstrating robust data alignment and high-quality annotations.
- Complete a paper and design a model that significantly improved the accuracy of predicting hand-object interactions, achieved state-of-art performance.

### Software Engineer Intership

Shanghai, China

Shanghai ScenAuto Co. Ltd.

Jul 2022 - Sep 2022

- Develop software to measure the 3-D coordinates of changing stockpiles, using two moving lidar scanners.
- Develop data communication software with PLC (SIMENS), utilizing the Modbus-TCP protocol.
- Develop historical data storage using MySQL.
- Develop dynamic 3-D graphics of the stockpiles, rendering each area in a different color based on data from the control system.

## PROJECT EXPERIENCE

### Reinforcement Learning based Meta-Path Excavation on the Yelp Dataset

Shanghai, China

Core Member, supervised by Associated Prof. Kewei Tu

Nov 2022 – Jan 2023

- Conducted research on a meta-path selection algorithm based on reinforcement learning.
- Experimented with Yelp data to demonstrate the effectiveness of DQN-based meta-path selection strategy.
- Successfully reproduced results from a top conference(NIPS) paper, achieving strong model performance.

### Gaussian Blur Algorithm Acceleration from the Perspective of Computer Architecture

Shanghai, China

Team Leader, supervised by Associated Prof. Chundong Wang

May 2022 – June 2022

- Optimized the Gaussian blur algorithm utilizing Computer Architecture optimizing skills like multi-threading, SIMD instructions, loop unrolling, and cache blocking technique.
- Optimized the Gaussian blur algorithm by leveraging C language loading characteristic for image preprocessing.
- Optimized the Gaussian blur algorithm, reducing processing time for large images from 20 seconds to less than 6 seconds.

### Design of Solar Panel Dual-Axis Tracking System

Shanghai, China

Core Member, Training Project, supervised by Associated Prof. Junrui Liang

Dec 2020 – Jan 2021

- Researched dual-axis solar tracking algorithms and implemented them using Arduino, C language and .
- Designed circuits and 3D model fabricated light sensors, utilizing 3D printing technology, and 3D modeling software Inventor.
- Assembled the overall framework for solar panels, design circuit utilizing power distribution board.
- Design and implemented a high-precision 360-degree solar tracking system for solar panels.