

# Zhanhe Shi

New York University

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## Education

### New York University

New York, NY, USA

Master of Science in Information Systems (MSIS)

Sep 2025 - Present

- **GPA: 4.0/4.0**
- **Courses:** Fundamental Algorithms, Data Communications & Networks, Data Science & AI for Business
- **In Progress:** Deep Learning, Database Systems, The Global Economy

### ShanghaiTech University

Shanghai, China

School of Information Science and Technology, Bachelor of Computer Science and Technology

Sep 2021 - Jun 2025

- **Courses:** Machine Learning, Econometric Analysis Methods and Modeling, Mathematical Modeling
- **Honors & Awards:** Outstanding Student, 2023-2024

### University of California, Berkeley

Berkeley, CA, USA

College of Engineering, Berkeley Extension Global Exchange Program, Computer Science

Aug 2023 - May 2024

- **Courses:** Designing, Visualizing and Understanding Deep Neural Networks, Intro to Computer Vision and Computational Photography

## Internship Experience

### Hundsun Technologies Inc.

Hangzhou, Zhejiang, China

Intern, Junior Software Engineer

May 2024 - Jul 2024

- Conducted research on existing major datasets and related models for document layout analysis.
- Evaluated the accuracy and performance of several open-source models on the Chinese dataset CDLA.
- Retrained LayoutLMv3, YOLO, and VGT models, comparing their performance and accuracy.

## Research & Project Experience

### Multiple Human-Object Interaction Generation with Conditional Diffusion

Shanghai, China

Graduation Project

May 2025

- Proposed a generation framework for multiple human-object interaction, implemented a temporal Transformer with a conditional diffusion model.
- Incorporated PointNet++ object point-cloud encoding and a discrete quantity encoder to inject geometry and entity-count priors.
- Implement an AdaLN-Zero modulated temporal fusion Transformer to condition feature normalization on diffusion timesteps.

### HOI-M3 : Capture Multiple Humans and Objects Interaction within Contextual Environment

Shanghai, China

Third Author, Frontier Science Research Base on Intelligent Human-Machine Collaboration and Interaction

Aug 2023 - Mar 2024

- Assisted in capturing a multi-human multi-object interaction dataset.
- Designed and developed a Segment Anything Model based annotation tool to track masks for people and objects.
- Employed ViTPose to detect single-view human body keypoints and performed multi-view matching to optimize the human body SMPL model.
- **Accepted by CVPR 2024 (Highlight).** (arXiv:2404.00299v2 [cs.CV] 2 Apr 2024)

### FGSM-Based Attack on SAM Model

Berkeley, CA, USA

Team Leader, University of California, Berkeley

Apr 2024

- Implemented FGSM (Fast Gradient Sign Method) to attack SlimSAM model and generate adversarial samples.
- Conducted quantitative evaluations of adversarial attacks on SlimSAM by calculating mIoU between original and adversarial masks.
- Developed a Gradio-based web interface to support image uploads and visualize attack masks based on selected weights.

### 3D Character Generation Using ControlNet and LoRA

Berkeley, CA, USA

Team Member, University of California, Berkeley

Nov 2023 - Dec 2023

- Used LoRA to fine-tune the existing text-to-image diffusion model, enhanced the consistency of characters features.
- Combined ControlNet with 3D human pose solution, controlled the spatial consistency in multi-view images through depth and key points.
- Generated 3D character models using Gaussian splatting.

## Skills

**Programming** Python (NumPy, Matplotlib, PyTorch, OpenCV), C/C++, MATLAB

**Miscellaneous** Linux, TeX, Microsoft Office, Git, Tencent Cloud, Simulation of Urban Mobility, Wind, Blender