

Siyuan Xie

Curriculum Vitae

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EDUCATION

University of California, Berkeley
COE Exchange Program, Computer Science

August 2024 - September 2025

- Total GPA: 4.0/4.0

ShanghaiTech University, Shanghai, China
Computer Science

September 2022 – June 2026

- Total GPA: 3.88/4.0 (Major GPA: 4.0/4.0)
- Major Ranking: 2/162
- TOEFL: 105/120
- Research Areas:
 - LLM / LLM Agents
 - Computer Vision (Gaussian Splatting, NeRF, Diffusion)

INTERN AND WORK EXPERIENCE

ShanghaiTech University, VRVC Lab (Frontier Base)

September 2023 – August 2024

Undergraduate Research Intern, Shanghai NeuDim Digital Technology Inc.

- Researched 3D reconstruction algorithms (diffusion-based image synthesis + 3D reconstruction)
- Designed and executed comparative experiments, compiling results into publication-ready tables
- Implemented server-side backend features:
 - Optimized web-based Gaussian Splatting rendering
 - Maintained user-service APIs
- Downloaded and processed large-scale datasets for training and evaluation

Introduction to Information Science and Technology (SI100B)

September 2023 - January 2024

Teaching Assistant, ShanghaiTech University

- Designed and developed final project for freshman students
- Designed / Validated homework assignments & Compiled key data points for grading
- Tutored lectures & recitation sessions & regular office hours
- Monitored academic integrity by reviewing and verifying homework submissions

PUBLICATIONS

V³: Viewing Volumetric Videos on Mobiles via Streamable 2D Dynamic Gaussians

*Penghao Wang, Zhirui Zhang, Liao Wang, Kaixin Yao, **Siyuan Xie**, Jingyi Yu, Minye Wu, Lan Xu.*

ACM Trans. Graph. (SIGGRAPH Asia 2024)

Project Page | Video | arXiv

SELECTED PROJECTS

AI-Nuggets

A Research-Oriented LLM Survey Agent

Spring 2025, CS194-280, UC Berkeley by Dawn Song

- Designed a doubly-aware agentic workflow integrating social media streams (X/Twitter) with academic sources (Semantic Scholar, Google Scholar, etc.)
- Developed an MCP server to unify access to social media, research paper repositories, and custom databases
- Improved information-extraction and analysis capabilities, outperforming Grok
- Implemented an Neo4j Based academic graph to supply structured background data for agent reasoning

MeshAnything

Extract any object's mesh from video

Spring 2025, UC Berkeley CS184 by Ren Ng

- Built an end-to-end pipeline from video input to any object's mesh extraction
- Extended LangSplat by integrating CLIP model for text-conditioned extraction of object from 3DGS scenes
- Docker-based containerization to ensure reproducibility, ease of deployment, and robustness

Spatial Perception And Reasoning BenchmarkK (SPARK)

A Scavenger Hunt Game for LLM Agents

Fall 2024, UC Berkeley CS194 by Dawn Song

- **3rd Place** — **LLM-Agents Hackathon Benchmark Track, RDI Center, Berkeley**
- Led the design of a benchmark evaluating LLM agents' navigation in real-world street views.
- Defined quantitative metrics to assess spatial reasoning and visual understanding.
- Implemented a QA system that guides agents through scavenger hunt tasks.

GitHub | Video | Paper | Hackathon Page

Secure File Sharing System

Fall 2024, UC Berkeley CS161 by David Wagner

- Led the design of a secure file sharing system on a totally unreliable data server where an attacker can see and retrieve all data uploaded/downloaded/modified
- Designed login authentication, encryption/MAC schemes, file structure, and supporting data structures
- Ranked in the **top 15%** of the class under completely unknown test-case evaluations

DDPM

Fall 2024, UC Berkeley CS180 by Alexei Efros

- Integrated advanced diffusion techniques, including SDEdit, Classifier-Free Guidance, In-Painting, and Visual Anagrams, for real-world image generation and modification.
- Implemented a denoising diffusion probabilistic model **from scratch** to generate handwritten digits.
- Won a **Class Choice Award** Runner-up

Project report: DDPM

NeRF

Fall 2024, UC Berkeley CS180 by Alexei Efros

- Re-implemented Neural Radiance Fields (NeRF) from scratch, covering volumetric rendering, positional encoding, 3D projection, and sampling

Project report: NeRF

AWARDS AND HONORS

3rd Place, LLM-Agents Hackathon Benchmark Track

RDI Center, Berkeley, 2025

Merit Student 2024

ShanghaiTech University, 2024

Merit Student 2023

ShanghaiTech University, 2023

Merit Student of Social Practice

ShanghaiTech University, 2023

The Third Prize, Innovation and Creative Works Contest

ShanghaiTech University, 2023

The Third Prize, Asia and Pacific Mathematical Contest in Modelling

APMCM, 2022

VOLUNTEER EXPERIENCE AND ACTIVITIES

School of Information Science and Technology (SIST)

2022.09 - 2023.09

Volunteer — ShanghaiTech University

Scheduled experience-sharing sessions for senior students/graduates; Designed posters; Volunteered in SIST (School of Information Science and Technology) socialising activities.

Plasma Band

2022.09 - Present

Pianist/Keyboard

Attended numerous band performance, such as New-Years' Gala, Prism's Live and many other activities. Responsible for performing keyboard, composing piano scores and arranging band rehearsals.

SKILLS

Programming Languages: Python, C/C++, Go, MATLAB, JavaScript

AI Frameworks: Pytorch, Autogen, OpenAI (Agent)

Programming Backends: FastAPI, Flask, Docker, Neo4j, SQLite

Language: English (Fluent), Chinese (Native)

Other: Piano (Highest rank)*, Music Theory (Intermediate)*, Video/Image Editing (PS/Pr/AE), 3D Software (C4D/Blender), Badminton, Japanese, Yo-Yo

*: certified by Shanghai Conservatory of Music