Yunxiao (Jack) Zhang

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EDUCATION

Texas A&M University, College Station, TX **Expected May 2026**

M.S. in Visualization (Major: Computer Graphics) *GPA: 3.88 / 4.00*

Course Highlights: Machine Learning for 3D Visualization & Graphics, Generative AI for Art & Communication

Fudan University, Shanghai, China **Sep 2020 - Jun 2024**

Bachelor of Engineering in Software Engineering

PUBLICATION & PROJECTS

Time-Archival Camera Virtualization for Sports and Visual Performances

First-author, *Computer Vision and Image Understanding (CVIU),* ***Accepted****, Feb 2026.*

- Built an **end-to-end** multi-view dynamic 3D/4D reconstruction pipeline **(PyTorch)** for pre-calibrated, synchronized multi-camera rigs; standardized configs, logging, and experiment tracking for repeatable ablations.
- Implemented dataset integrity + geometry validation (intrinsics/extrinsics, coordinate frames, time sync) to prevent silent failures under fast motion/occlusion; added automated offline PSNR/LPIPS evaluation + regression reporting.
- Extended an Instant-NGP-style neural field to multi-camera, per-camera intrinsics for training/inference on heterogeneous rigs; enabled consistency analysis under motion/occlusion with tracking-style evaluation.

RealSynth Studio (Synthetic Data Generation Pipeline)

Sole Developer (Python, Blender API)

- Developed a comprehensive Blender add-on to automate the generation of high-quality, multi-camera synthetic datasets tailored for NeRF and 3D Gaussian Splatting (3DGS) evaluation and training.
- Bridged 3D modeling and neural rendering workflows by outputting precise camera parameters accurately aligned with COLMAP and Instant-NGP coordinate standards

Time-Archival 3D Gaussian Splatting (TA-3DGS)

Sole Developer (PyTorch)

- Implemented per-frame 3D Gaussian Splatting with warm-start strategies to improve stability for dynamic scenes; analyzed trade-offs across GT-init vs warm-start and densification variants.
- Packaged experiments into CLI scripts (argparse) with deterministic seeds, structured logs, and reproducible runs; improved maintainability for multi-run ablation studies.

INTERNSHIP EXPERIENCE

HFT Investment Management, Shanghai, China **Jun 2023 - Jul 2023**

Software Engineering Intern

- Built an internal API usage monitoring dashboard (requests, error rates, latency) to improve visibility for internal web platform; enabled faster incident triage and capacity planning.

LEADERSHIP

Fudan University E-sports Club **Apr 2021 - Jun 2022**

League of Legends Team Leader

SKILLS

Programming Languages: Python, C++, Java, JavaScript, TypeScript
Frontend: React
ML/AI: PyTorch, scikit-learn (familiar); model training/inference; evaluation (PSNR, LPIPS); experiment tracking; reproducibility
CV/3D: OpenCV; multi-view geometry; camera calibration; SfM; COLMAP; NeRF; 3D Gaussian Splatting (3DGS)
Data & MLOps: SQL (MySQL), pandas, NumPy; FastAPI; asyncio; WebSocket; Docker; Git; Linux; logging, monitoring