Xuanyi Xie(谢轩奕)

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EDUCATION & EXPERIENCES

Bachelor of Computer Science
IIIS (Yao Class), Tsinghua University, GPA: 3.81/4.00 August 2023 - July 2027(expected)

Research Intern
THU i-VisionGroup, focusing on spatial intelligence and AI agents,
instructed by Professor Yueqi Duan Dec 2025 -

THU 3DVICI Lab, focusing on humanoid locomotion and robotic arm manipulation,
instructed by Professor Li Yi Sep 2024 - Dec 2025

Galbot Humanoid Group Jun 2025 - Sep 2025

High School Diploma
Shanghai High School Sep 2020 - Jun 2023

SKILLS AND INTERESTS

Research Interests	Spatial Intelligence, AI Agent, Embodied AI , Computer Vision
Programming Languages	C/C++, Python, Scala, SQL, Javascript
Framework	Pytorch, Tensorflow, PyBullet, MuJoCo, Isaac Gym, Isaac Lab, Blender
Platform	Franka, Unitree G1, Raspberry Pi

PUBLICATIONS

Efficient Controlled Text Generation of DLLMs with Classifier Guidance Jul 2025 - Sep 2025
AAAI26 PerFM workshop, co-first author

- Developed an efficient pipeline for controlling text generation in diffusion large language models (DLLMs) by integrating lightweight classifier guidance
- Proposed optimization techniques to reduce inference overhead, achieving ∼90% latency reduction compared with naïve guidance while maintaining control accuracy
- My first experience in LLM research

PROJECTS (MOST IN AI)

Generalizable Dynamic Handover via Physical Property Estimation Oct 2025 - Jan 2026
Project as part of Intelligent Systems and Robots course, cooperated with Yingxi Lu and Zhuo Cao

- Reproduced and extended the Dynamic Handover work by introducing a Physical Property Estimator network to improve generalization across object physical properties
- Enhanced out-of-distribution performance on mass variation by conditioning the multi-agent RL policy on estimated physical parameters from history observations, achieving significant improvement over base policy while identifying limitations in scale generalization due to discontinuous behavior patterns

DISPER: Disentangled Perception for Generalizable Post-Training Apr 2025 - May 2025
Project as part of Embodied AI course, cooperated with Yingxi Lu and Zhuo Cao

- Proposed a disentangled policy architecture separating proprioception, spatial, and geometric encoding modules to preserve geometry-level generalization during real-world post-training
- Validated that freezing the geometric encoder during DAgger-based post-training mitigates overfitting to specific object geometries, though residual entanglement in the policy network remains a challenge for full generalization

SIGHT: Safety Insight Generation and Hazard-Awareness Transfer Apr 2025 - May 2025

Project as part of Natural Language Processing course, cooperated with Yihan Xu, Zhuo Cao, and Peiqi Duan

- Developed a two-stage framework to distill safety reasoning capabilities from frontier LLMs to lightweight models by generating structured safety insights (reflection + risk analysis) using gpt-oss-safeguard-20B as oracle
- Improved safety classification accuracy from 57% to 71% on XSTest benchmark and significantly reduced exaggerated safety behaviors through reasoning-aware fine-tuning of Qwen2.5-0.5B-Instruct with 5M insight-annotated samples

Stable Personalized Music2Dance Video Generation Apr 2025 - Jun 2025

Project as a part of Deep Learning course, cooperated with Zhuo Cao, Yingxi Lu and Fangyu Zhu

- Designed and implemented a pipeline to automatically generate dance videos from arbitrary music and a single reference image
- Enhanced stability and identity preservation by combining diffusion-based motion generation, DensePose alignment, and a novel facial attention encoder
- **Ranked second in the popularity poll**

Black-and-White Video Restoration via Frame Interpolation and Multi-Reference Colorization Apr 2025 - May 2025

Project as a part of Computer Vision course, cooperated with Jiayi Hu

- Developed a two-stage framework to restore and colorize old black-and-white videos by combining frame interpolation and multi-reference colorization
- Enhanced temporal smoothness by finetuning FILM model on grayscale video triplets, and improved colorization quality and scene consistency with a modified TCVC structure leveraging multiple reference frames

A Python Implementation of SPH Simulation Method Sep 2024 - Jan 2025

Project as a part of Advanced Computer Graphics course, cooperated with Songbo Hu

- Developed a complete simulation and rendering pipeline for rigid body and fluid dynamics based on WCSPH and DFSPH methods, supporting solid-solid, solid-fluid, and fluid-fluid coupling
- Achieved near real-time performance through algorithmic and GPU acceleration; enhanced visual realism via advanced rendering with Blender
- Give me better understanding in physics simulation, which is useful in robotic simulators. Help me get familiar with Blender

ACHIEVEMENTS

Academic Excellence Scholarship, Tsinghua University *Nov 2024*

DECLARATION

I hereby declare that all the details furnished above are true to the best of my knowledge and belief.