Yuelin Xin

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Education

University of California, Irvine — *Irvine, CA*
PhD in Computer Science — *Sep 2024 - Present*
- Research in 3D vision, currently focusing on learning-based 3D Gaussian Splatting / 3D representation
- Advisers: **Prof. Xiaohui Xie** (UC Irvine) and **Prof. Xinke Li** (CityU of Hong Kong)

University of California, Irvine — *Irvine, CA*
Visiting Research — *Jun 2023 - Sep 2023*
- Research in 3D medical image registration and learning with pseudo ground truth
- Adviser: **Prof. Xiaohui Xie**

University of Leeds — *Leeds, UK*
BSc in Computer Science (First Class Honour) — *Sep 2022 - Jul 2024*
- Research in self-supervised learning in computer vision for medicine
- Adviser: **Dr. Sharib Ali**

Southwest Jiaotong University — *Chengdu, China*
BSc in Computer Science (transferred to Leeds) — *Sep 2020 - Jul 2022*
- Research in real-time image analysis, awarded school scholarship & Best Student Award
- Adviser: **Dr. Zhiguo Long**

Experience

Canon USA — *Irvine, CA*
Intern Researcher — *July 2025 - Sep 2025*
- Worked on real-time feed-forward 3D Gaussian Splatting reconstruction on digital humans
- Mentor: **Dr. Xiwu Cao**

Publications

Learning Unified Representation of 3D Gaussian Splatting — *Irvine, CA*
Yuelin Xin, Yuheng Liu, Xiaohui Xie, Xinke Li — *Spring 2025*
- Proposed a new representation based on iso-probability density submanifold for 3DGS that better suits learning-based methods, and a pairing framework for learning 3DGS embeddings on this new representation
- Under review, **paper**

On-the-Fly Guidance Training for Medical Image Registration — *Irvine, CA*
Yuelin Xin, Yicheng Chen, Shengxiang Ji, Kun Han, Xiaohui Xie — *Summer 2023*
- A unified training framework with optimization-based online supervision that provides a better alternative to weakly-supervised and unsupervised learning in medical image registration
- Published at **MICCAI 2024**, **paper**

Scene Separation & Data Selection: Temporal Segmentation Algorithm for Real-time Video Stream Analysis — *Chengdu, China*
Yuelin Xin, Zihan Zhou, Yuxuan Xia — *Summer 2022*
- Proposed an algorithm for real-time video scene separation and frame decomposition based on frame hashing
- Published & orally presented at **IJCAI 2022 Workshop**, **paper**

Misc

Programming	Python (PyTorch), web stack, C/C++, etc.
Membership	IEEE, ACM, MICCAI
Teaching	Teaching Assistant: CS 117 Proj in CV (S25), CS 273P ML & DM (W25)
Community work	Lead editor for Hello Algo (English version)
Reviewer	ICLR