Yuanbo Xiangli

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Education

The Chinese University of Hong Kong 2019 - 2023
PhD in Information Engineering, advised by Prof. Dahua Lin

Oxford University 2017 - 2018
MSc in Computer Science

University of Nottingham 2013 - 2017
BSc Honors in Computer Science

Research Interests

3D Computer Vision | *Neural rendering and reconstruction: fidelity, efficiency, scalability and understanding*

Generative Modeling | *X-to-3D, image synthesis, foundation model*

Ubiquitous computing | *Lifelong learning, personalization*

Professional Experience

Cornell University | *Postdoctoral Researcher* February 2024 – Present
Advised by Prof. Noah Snavely

Adobe Research | *Research Scientist/Engineer (intern)* June 2023 – September 2023
Research on Large-scale 3D Reconstruction Model.

Shanghai AI Lab | *Student Researcher* 2022 – 2023
InternLandMark1.0&2.0: Large-scale high-efficient real-world urban scene reconstruction, editing and stylization.

Sensetime (Hong Kong) | *Intern* February 2019 – August 2019
RealnessGAN: Worked with Dr. Bo Dai and Prof. Dahua Lin on realistic image synthesis with generative models.

Project Experience

The University of California, Los Angeles | *Research Assistant* 2016 Summer
MobileInsight: Worked with Dr. Yuanjie Li and Prof. Songwu Lu on improving Dynamic Adaptive Streaming over HTTP (DASH) algorithm using physical layer bandwidth for smoother streaming.

University of Nottingham | *Data Analyst and Developer* September 2015 – June 2016
MentalSpace: Worked with Prof. Max L. Wilson on electroencephalogram (EEG) data collection, analysis, and visualization.

The Chinese University of Hong Kong | *Research Assistant* 2015 Summer
Worked with Prof. Chen Change Loy on image aesthetic assessment.

Publications

[1] **Yuanbo Xiangli**, Linning Xu, Xingang Pan, Nanxuan Zhao, Anyi Rao, Christian Theobalt, Bo Dai and Dahua Lin. "BungeeNeRF: Progressive Neural Radiance Field for Extreme Multi-scale Scene Rendering." European Conference on Computer Vision (2022).

[2] **Yuanbo Xiangli**, Linning Xu, Xingang Pan, Nanxuan Zhao, Bo Dai and Dahua Lin. "AssetField: Assets Mining and Reconfiguration in Ground Feature Plane Representation." 2023 IEEE/CVF International Conference on Computer Vision (ICCV) (2023).

[3] ***(Spotlight)*** **Yuanbo Xiangli**, Yubin Deng, Bo Dai, Chen Change Loy and Dahua Lin. "Real or Not Real, that is the Question." International Conference on Learning Representations 2020.

[4] Linning Xu, **Yuanbo Xiangli**, Sida Peng, Xingang Pan, Nanxuan Zhao, Christian Theobalt, Bo Dai and Dahua Lin. "Grid-guided Neural Radiance Fields for Large Urban Scenes." 2023 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) (2023).

[5] Linning Xu, **Yuanbo Xiangli**, Anyi Rao, Nanxuan Zhao, Bo Dai, Ziwei Liu and Dahua Lin. "BlockPlanner: City Block Generation with Vectorized Graph Representation." 2021 IEEE/CVF International Conference on Computer Vision (ICCV) (2021).

[6] Mulin Yu, Tao Lu, Linning Xu, Lihan Jiang, **Yuanbo Xiangli**✉ and Bo Dai. "GSDF: 3DGS Meets SDF for Improved Rendering and Reconstruction." (2024).

[7] **Yuanbo Xiangli**, Chris Xiaoxuan Lu, Peijun Zhao, Changhao Chen and A. Markham. "iSCAN: automatic speaker adaptation via iterative cross-modality association." Adjunct Proceedings of the 2019 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2019 ACM International Symposium on Wearable Computers (2019)

[8] ***(Oral)*** Chris Xiaoxuan Lu, Yang Li, **Yuanbo Xiangli**✉ and Zhengxiong Li. "Nowhere to Hide: Cross-modal Identity Leakage between Biometrics and Devices." Proceedings of The Web Conference 2020 (2020).

[9] ***(Highlight)*** Tao Lu, Mulin Yu, Linning Xu, **Yuanbo Xiangli**, Limin Wang, Dahua Lin and Bo Dai. "Scaffold-GS: Structured 3D Gaussians for View-Adaptive Rendering." 2024 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) (2024).

[10] Yixuan Li, Lihan Jiang, Linning Xu, **Yuanbo Xiangli**, Zhenzhi Wang, Dahua Lin and Bo Dai. "MatrixCity: A Large-scale City Dataset for City-scale Neural Rendering and Beyond." 2023 IEEE/CVF International Conference on Computer Vision (ICCV) (2023).

[11] Weijia Li, Yawen Lai, Linning Xu, **Yuanbo Xiangli**, Jinhua Yu, Conghui He, Guisong Xia and Dahua Lin. "OmniCity: Omnipotent City Understanding with Multi-Level and Multi-View Images." 2023 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) (2022).

[12] Chris Xiaoxuan Lu, **Yuanbo Xiangli**, Peijun Zhao, Changhao Chen, Niki Trigoni and A. Markham. "Autonomous Learning of Speaker Identity and WiFi Geofence From Noisy Sensor Data." IEEE Internet of Things Journal 6 (2019).

[13] Yuanjie Li, Haotian Deng, **Yuanbo Xiangli**, Zengwen Yuan, Chunyi Peng and Songwu Lu. "In-device, runtime cellular network information extraction and analysis: demo." Proceedings of the 22nd Annual International Conference on Mobile Computing and Networking (2016).

Teaching Experience

Introduction to Computer Vision | *Guest Lecturer*	2024 Spring - Cornell
Data Structure | *Teaching Assistant*	2021 Spring - CUHK
Multimedia Coding and Processing | *Teaching Assistant*	2019/20 Spring - CUHK
Problem Solving by Programming | *Teaching Assistant*	2019/20/21 Fall - CUHK

Invited Talks

Pack Urban Scenes into Neural Fields

New York University Tandon School of Engineering, April 2024
University of Illinois Urbana-Champaign, February 2024
University of Tübingen, October 2023
Max Planck Institute for Informatics, Saarland University, October 2023
Center on Frontiers of Computing Studies, Peking University, July 2023

Large-scale Urban Scene Modeling with Neural Representations

DeepBlue Acadamy, August 2023
Sensetime, Women in Science Seminar, September 2022