Shengqu Cai

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EDUCATION

since 2023	PhD in COMPUTER SCIENCE, **Stanford University**, United States Advised by Prof. Gordon Wetzstein and Prof. Leonidas Guibas. GPA: 4.3/4.3
2020 - 2023	MSc in COMPUTER SCIENCE, **ETH Zürich**, Switzerland Advised by Prof. Luc Van Gool. GPA: 5.7/6.0 (Major GPA: 6.0/6.0)
2017 - 2020	BSc (Hons) in COMPUTER SCIENCE, **King's College London**, United Kingdom First Honour. Average: 90% (GPA: 4.0/4.0, $\approx$ top 1%)

RESEARCH EXPERIENCE

2023	Research Intern at **Adobe Research**, California, USA Paper published at CVPR'2024 [3]. Patent [B].
2022	Visiting Student Researcher at **Stanford University**, California, USA Paper published at ICCV'2023 [2]. Supervisor: Prof. Gordon Wetzstein
2021	Research Student at **ETH Zürich CVL & Toyota TRACE**, Zürich, Switzerland Paper published at CVPR'2022 [1]. Patent [A]. Supervisor: Dr. Dengxin Dai, Prof. Luc Van Gool

PUBLICATION

[5] Collaborative Video Diffusion: Consistent Multi-video Generation with Camera Control, in **NeurIPS**, 2024.
Zhengfei Kuang*, **Shengqu Cai***, Hao He, Yinghao Xu, Hongsheng Li, Leonidas Guibas, and Gordon Wetzstein.

[4] Robust Symmetry Detection via Riemannian Langevin Dynamics, in **SIGGRAPH Asia**, 2024.
Jihyeon Je*, Jack Liu*, Guandao Yang*, Boyang Deng*, **Shengqu Cai**, Or Litany, and Leonidas Guibas.

[3] Generative Rendering: Controllable 4D-Guided Video Generation with 2D Diffusion Models, in **CVPR**, 2024.
Shengqu Cai, Duygu Ceylan, Matheus Gadelha, Chun-Hao Paul Huang, Tuanfeng Yang Wang, and Gordon Wetzstein.

[2] DiffDreamer: Towards Consistent Unsupervised Single-view Scene Extrapolation with Conditional Diffusion Models, in **ICCV**, 2023.
Shengqu Cai, Eric Ryan Chan, Songyou Peng, Mohamad Shahbazi, Anton Obukhov, Luc Van Gool, and Gordon Wetzstein.

[1] Pix2NeRF: Unsupervised Conditional π-GAN for Single Image to Neural Radiance Fields Translation, in **CVPR**, 2022.
Shengqu Cai, Anton Obukhov, Dengxin Dai, and Luc Van Gool.
Featured: NeRF at CVPR 2022, datagen.tech, metaphysic.ai, etc.

Patent

[B] Diffusion-based Novel View Synthesis and Animation
   US patent, filed in 2023 by Adobe.
[A] System for Unsupervised Single Image to Neural Radiance Fields Translation
   European patent, filed in 2022 by Toyota, approved in 2023.

Teaching Experience

2019	Practical Experiences Of Programming, King's College London

Industrial Experience

2020	Technology Analyst at **China National Petroleum Corporation**, Shenyang, China
2018	Software Engineer at **Neusoft**, Shenyang, China
2018	Software Engineer at **China National Petroleum Corporation**, Shenyang, China

Projects

2021	Real Time Photorealistic Neural Rendering in VR at **Computer Vision and Learning Group, ETH Zürich**, Zürich, Switzerland Description: Deploy per-frame translation module on Oculus Quest 2 using Barracuda and Unity.
2021	Viewpoint Adaptation in a Synthetic Environment at **Computer Vision and Geometry group, ETH Zürich**, Zürich, Switzerland Description: SLAM module training augmentation with synthetic world model correspondence. Part of the working package available here.
2021	Semi-supervised Semantic Amodal Hand Gesture Segmentation at **ETH Zürich**, Zürich, Switzerland Description: Occluded hand gesture segmentation with semi-supervised pipeline.
2020	Adapt RCNN for Natural language to SQL Translation at **ETH Zürich**, Zürich, Switzerland
2018	Ocado Multi-agent Planning at **King's College London**, London, United Kingdom
2018	Adapt Deep learning to Episodic non-Markov Localization at **King's College London**, London, United Kingdom

Academic services

Conference review:	CVPR (23, 24), ICCV (23), ECCV (22, 24), NeurIPS (23, 24), ICLR (23, 24, 25), ICML (24, 25), SIGGRAPH (23, 24)
Journal review:	IJCV, Computing Surveys, Eurographics, T-PAMI

Languages

English:	Fluent (IELTS 8.0)
Chinese:	Mothertongue
German:	Beginner