Shengqu Cai

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Education

since | PhD in Computer Science, **Stanford University**, California, USA
Advised by Prof. Gordon Wetzstein and Prof. Leonidas Guibas. GPA: 4.3/4.3

2020 - | MSc in Computer Science, **ETH Zürich**, Zürich, Switzerland
Advised by Prof. Luc Van Gool. GPA: 5.7/6.0 (Major GPA: 6.0/6.0)

2017 - | BSc (Hons) in Computer Science, **King's College London**, United Kingdom
Average: 90% (GPA: 4.0/4.0, $\approx$ top 1%), First Honour

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

[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:	ECCV22, CVPR23, ICCV23, NeurIPS23, ICLR23, ICLR24, ICML24, CVPR24, ECCV24
Journal review:	IJCV23, Computing Surveys, Eurographics

Languages

English:	Fluent
Chinese:	Mothertongue