

Shengqu Cai

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EDUCATION

since 2023	Stanford University , California, USA PhD in COMPUTER SCIENCE
2020 - 2023	ETH Zürich , Zürich, Switzerland MSc in COMPUTER SCIENCE, <i>Major in Visual Computing</i> GPA: 5.7/6.0, Major GPA: 6.0/6.0
2017 - 2020	King's College London , London, United Kingdom BSc (Hons) in COMPUTER SCIENCE Average: 90% (GPA: 4.0/4.0, \approx top 1%), graduated with First Honour

RESEARCH EXPERIENCE

2022	Visiting Student Researcher at Stanford University , California, USA Master thesis at Stanford Computational Imaging Group. Project: Unsupervised one-shot scene extrapolation. Paper published at ICCV'2023 [2]. Supervisor: Prof. Gordon Wetzstein
2021	Research Student at ETH Zürich CVL & Toyota TRACE , Zürich, Switzerland Project: Unsupervised one-shot novel view synthesis. Paper published at CVPR'2022 [3]. Patent [A]. Supervisor: Dr. Dengxin Dai, Prof. Luc Van Gool
2019 - 2020	Research student at King's College London , London, United Kingdom Bachelor final thesis, received high distinction(85%). Project: Invariant Information Clustering with videos. Supervisor: Dr. Michael Spratling

PUBLICATION

- [1] Generative Rendering: Controllable 4D-Guided Video Generation with 2D Diffusion Models
Shengqu Cai, Duygu Ceylan, Matheus Gadelha, Chun-Hao Paul Huang, Tuanfeng Yang Wang, and Gordon Wetzstein.
Under review, 2023.
- [2] DiffDreamer: Towards Consistent Unsupervised Single-view Scene Extrapolation with Conditional Diffusion Models
Shengqu Cai, Eric Ryan Chan, Songyou Peng, Mohamad Shahbazi, Anton Obukhov, Luc Van Gool, and Gordon Wetzstein.
In: ICCV, 2023.
- [3] Pix2NeRF: Unsupervised Conditional π -GAN for Single Image to Neural Radiance Fields Translation.
Shengqu Cai, Anton Obukhov, Dengxin Dai, and Luc Van Gool.
In: CVPR, 2022.
Featured: [NeRF at CVPR 2022](#), datagen.tech, metaphysic.ai, etc.

PATENT

[A] System for Unsupervised Single Image to Neural Radiance Fields Translation
European patent: EP 22 158 531.8.
filed in 2022 by Toyota, approved in 2023.

TEACHING EXPERIENCE

2019 | Practical Experiences Of Programming, King's College London

INDUSTRIAL EXPERIENCE

2023 | Research Intern at **Adobe Research**, San Jose, USA
Research on enhancing video editing tools. Mentor: Dr. Duygu Ceylan.

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, CVPR24
JOURNAL REVIEW: IJCV23, Computing Surveys, Eurographics

LANGUAGES

ENGLISH: Fluent
CHINESE: Mothertongue