

Shi Chen

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EDUCATION

ETH Zurich <i>Ph.D. in Mechanical and Process Engineering Advisor: Prof. Stefan Leutenegger</i>	Sep. 2025 – Present Zurich, Switzerland
ETH Zurich <i>M.Sc. in Electrical Engineering and Information Technology GPA: 5.71/6.0</i> <ul style="list-style-type: none">Courses: 3D Vision, Image Analysis and Computer Vision, Mixed Reality, Vision Algorithms for Mobile Robotics, Robot Learning, Computer Vision and Artificial Intelligence for Autonomous Cars, etc.	Sep. 2022 – Jun. 2025 Zurich, Switzerland
Kyoto University <i>B.Eng. in Electrical and Electronic Engineering GPA: 3.94/4.3</i> <ul style="list-style-type: none">Courses: Machine Learning, Pattern Recognition, Computer Software, etc.	Apr. 2018 – Mar. 2022 Kyoto, Japan

RESEARCH EXPERIENCE

ProDyG: Progressive Dynamic Scene Reconstruction from Monocular Videos <i>NeurIPS 2025, Advised by Dr. Erik Sandström and Prof. Martin Oswald</i> <ul style="list-style-type: none">Devised online dynamic scene reconstruction pipeline from unposed monocular videos using 3D Gaussian Splatting;Demonstrated robust tracking and novel view synthesis performance on par with state-of-the-art offline methods.	Nov. 2024 – May 2025 ETH Zurich
MonoDy-GS: Online Monocular Dynamic Gaussian Splatting <i>Advised by Prof. Martin Oswald, Dr. Sandro Lombardi and Prof. Marc Pollefeys</i> <ul style="list-style-type: none">Developed online pipeline capable of modeling dynamic scenes from RGB-D sequence using 3D Gaussians;Incorporated various priors based on real-world scene dynamics to address lack of multi-view coverage.	Apr. 2024 – Aug. 2024 ETH Zurich
EvenNICER-SLAM: Event-based Neural Implicit Encoding SLAM <i>Advised by Dr. Danda Pani Paudel and Prof. Luc Van Gool</i> <ul style="list-style-type: none">Enhanced robustness of NICE-SLAM against fast camera motion by integration of event data input;EvenNICER-SLAM significantly outperforms NICE-SLAM in tracking with reduced RGB-D input frequency.	Oct. 2022 – Jan. 2023 ETH Zurich
Road Scene Pedestrian Relocation for Data Augmentation <i>Advised by Prof. Shohei Nobuhara and Prof. Ko Nishino</i> <ul style="list-style-type: none">Devised data augmentation method that automatically cuts out large-scale pedestrians in foreground of road-scene videos and relocates them at farther positions with correct scale and occlusion;Proposed method improves Mask R-CNN in both detection and instance segmentation of far-away pedestrians.	May 2021 – Feb. 2022 Kyoto University

SELECTED PROJECTS

NeRaser: NeRF-based 3D Object Eraser <i>Mixed Reality</i> <ul style="list-style-type: none">Developed object removal pipeline in NeRF-based scene representation trained on casual monocular videos;NeRaser ensures visual consistency of occluded area through 3D-aware inpainting strategy.	Oct. 2023 – Jan. 2024
Monocular Visual Odometry <i>Vision Algorithms for Mobile Robotics</i> <ul style="list-style-type: none">Implemented monocular feature-matching-based visual odometry pipeline in Matlab.	Nov. 2023 – Jan. 2024
Hierarchical Dense Neural Point Cloud-based SLAM <i>3D Vision</i> <ul style="list-style-type: none">Enhanced robustness of Point-SLAM through coarse-to-fine optimization using multiple levels of neural points;Achieved significant improvement in tracking on real-world dataset ScanNet.	Mar. 2023 – Jun. 2023
Generalizable 3D Reconstruction Using Correspondence Matching <i>Robot Learning</i> <ul style="list-style-type: none">Proposed generalizable SDF-based sparse-view 3D reconstruction method utilizing 2D feature matching.	Mar. 2023 – Aug. 2023

COMPETITIONS & AWARDS

Ichikawa International Scholarship	Oct. 2020 – Sep. 2021
Champion, Summer Camp Robot Competition 2019 <i>Kyoto University</i>	Sep. 2019
Champion, Summer Camp Robot Competition 2018 <i>Kyoto University</i>	Sep. 2018

SKILLS

Programming: Python, Matlab, PyTorch, Git, Docker, Singularity, Arduino
Languages: Chinese (native), Japanese (native), English (Fluent)