Yu Chi

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RESEARCH INTERESTS

Generative Models, Neural Rendering, 3D Computer Vision

EDUCATION

Technical University of Munich   Oct. 2021 – Present
M.Sc., Robotics, Cognition, Intelligence   Munich, Germany

RWTH Aachen University   Oct. 2017 – March. 2021
B.Sc., Computer Engineering   Aachen, Germany
- Top 5 % Graduate

RESEARCH EXPERIENCE

Visual Computing and Artificial Intelligence Lab, MPI-INF   May 2024 – Present
Master's Thesis   Munich, Germany
- Working on zero-shot 6D pose estimation based on self-supervised representation learning on partial 3D data.

Visual Computing and Artificial Intelligence Lab, MPI-INF   June 2023 – Nov 2023
Research Intern   Munich, Germany
- Proposed a method to generate infinite high-quality 3D-aware data, including 3D point cloud part segmentations and multi-view consistent 2D fine-grained annotations with limited 2D human annotations.
- Implemented the framework based on 3D GANs such as EG3D and GNARF, adding a semantic branch into pretrained 3D GAN for view-consistent segmentations.
- Developed various applications from the proposed method, including 3D-aware semantic editing, 3D semantic inversion, and 3D RGB inversion using GAN inversion techniques.
- Designed experiments to quantitatively show the effectiveness of our generated multi-view 2D consistent segmentation and 3D point cloud part segmentation datasets.

CAMP, TUM   May 2022 – Nov 2022
Student Researcher   Munich, Germany
- Aimed to tackle the challenge of diffusion models failing to accurately represent complex text prompts.
- Proposed and implemented a scene graph guided image generation technique utilizing diffusion models with novel bounding box guidance and semantic segmentation guidance, resulting in enhanced image generation tailored to specific textual conditions.
- Conducted comprehensive evaluations of the developed method, benchmarking its performance on the COCO and VG datasets.

PUBLICATIONS

1. **DatasetNeRF: Efficient 3D-aware Data Factory with Generative Radiance Fields** - **Yu Chi**, Fangneng Zhan, Sibo Wu, Christian Theobalt, Adam Kortylewski. (**ECCV 2024**)
2. **SceneGenie: Scene Graph Guided Diffusion Models for Image Synthesis** - Azade Farshad*, Yousef Yeganeh*, **Yu Chi***, Chengzhi Shen, Björn Ommer, Nassir Navab. (**ICCVW 2023**)

TEACHING EXPERIENCE

RWTH Aachen University   April. 2020 – July. 2020
Student Teaching Assistant   Aachen, Germany
- Introduction of Electromagnetic Fields Theory

RWTH Aachen University   April. 2019 – July. 2019
Student Teaching Assistant   Aachen, Germany
- The Fundamental of Electrical Engineering 2: Modelling and Analysis of Electrical Components and Circuits

HONORS AND AWARDS

Germany Scholarship — 2019-2020
RWTH Aachen University — Aachen, Germany

Dean's List — 2021
RWTH Aachen University — Aachen, Germany

Zhejiang Province High School Mathematics Olympiad Competition First Prize — 2015
Hangzhou High School — Hangzhou, China

SKILLS

Programming: Pytorch, Python, C++, Matlab

Language: English (C1), German (C1), Mandarin (Native)