Zai Shi

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github.com/FomalhautB

scholar.google.com/citations?user=L2w84FcAAAAJ

fomalhautb.github.io

EDUCATION

2019 – Now **ETH Zürich ----** Bachelor's Degree in Computer Science
GPA (until now): 5.57 / 6.0

2016 – 2019 **Humboldt Gymnasium, Berlin, Germany ----** High School
Passed German Abitur

PUBLICATIONS

2021 **KM-BART: Knowledge Enhanced Multi-modal BART for Visual Common-sense Generation (**ACL 2021 - oral**)**

Yiran Xing*, **Zai Shi***, Zhao Meng*, Gerhard Lakemeyer, Yunpu Ma, Roger Wattenhofer
*equally contributed

- Implemented cross-modal feature alignment based on BART
- Responsible for the architecture and writing most of the project code
- Designed and implemented two novel pretraining tasks
- Achieved state-of-the-art performance on the Visual-Comet dataset

2021 **3D-RETR: End-to-End Single and Multi-View 3D Reconstruction with Transformers** (BMVC-2021)

Zai Shi*, Zhao Meng*, Yiran Xing, Yunpu Ma, Roger Wattenhofer
*equally contributed

- Put forward the main idea of building a model that can generate 3D voxel from single and multiple-view images based on Transformers
- Programed the project, designed several architectures and loss functions
- Outperform all previous methods on the ShapeNet and Pix3D dataset

ON GOING PROJECTS

2021 **Cycle-Consistent Neural Radiance Field**

Bachelor Thesis under the supervision of Prof. Marc Pollefeys

Uses cycle consistency as a self-supervision task to train a NeRF-based GAN using only single-view images as supervision

2021 **Depth-NeRF: Point Cloud based Novel View Synthesis from RGB-D Images**

Project of the "Deep Learning" course

Aims to build a model that can quickly extract 3D geometry from point clouds based on NeRF and depth information provided by depth cameras

AWARDS

2020 **ETH Computer Graphics Rendering Competition 2020:** Honorable Mention https://cgl.ethz.ch/teaching/cg20/competition/competition.php

- Responsible for implementing volumetric rendering, lighting, camera model, motion blur, textures, and normal map in C++
- Modeled and designed most parts of the scene using Blender

SKILLS

Languages
English & German: Proficient
Chinese: Native

Programming Languages and Tools
Python (PyTorch, Numpy): Advanced
Java, C++, C#, C, Keras, Unity, PhotoShop, Blender, LaTeX: Intermediate
JavaScript, HTML, Unreal Engine, MS Office: Familiar

HOBBIES & PASSIONS

2019-2020 **ETH Zürich Painting and Sculpting Society**

- Organized and hosted meetings (with 5-15 people) once a week
- Delivered speeches about theoretical and practical knowledge of painting
- Passion for painting and sculpting has promoted my endeavor in computer vision and 3D graphics

OTHERS

Field of Interest 3D-Vision, Multi-Modality, Natural Language Processing, Computer Graphics