YUANZHI ZHU

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EDUCATION BACKGROUND

10/2020-10/2023 **Swiss Federal Institute of Technology (ETH Zurich)**, Zurich, Switzerland
- Master in **Electrical Engineering and Information Technology**
- GPA: 5.616/6.0

10/2019-04/2020 **Technical University of Munich (TUM)**, Munich, Germany
- Exchange Program in **Electrical and Computer Engineering**
- GPA: 4.0/4.0 (1.0/1.0)

09/2016-06/2020 **Beihang University (BUAA)**, Beijing, China
- Bachelor of Engineering in **Electrical Engineering**
- GPA: 3.762/4.0 (90.73/100)

PUBLICATION

- ◊ **Yuanzhi Zhu**, Kai Zhang, Jingyun Liang, Jiezhang Cao, Bihan Wen, Radu Timofte, Luc Van Gool. Denoising Diffusion Models for Plug-and-Play Image Restoration, *CVPRW-NTIRE* (2023) (200+ GitHub stars)
- ◊ Jun Ma, **Yuanzhi Zhu**, Chenyu You, Bo Wang. Pre-trained Diffusion Models for Plug-and-Play Medical Image Enhancement, *MICCAI* (2023)
- ◊ Zixiang Zhao, Haowen Bai, **Yuanzhi Zhu**, Jiangshe Zhang, Shuang Xu, Yulun Zhang, Kai Zhang, Deyu Meng, Radu Timofte, Luc Van Gool. DDFM: Denoising Diffusion Model for Multi-Modality Image Fusion, *ICCV oral* (2023)
- ◊ Zhizhong Zhang*, **Yuanzhi Zhu***, Yue Zhang, Weisheng Zhao, et al. Skyrmion-based Ultra-low Power Electric-field-controlled Reconfigurable (SUPER) Logic Gate, *IEEE Electron Device Letters* (Published as cover in 2019) (* These authors contributed equally to this work)
- ◊ Hayato Mizuno, Hironari Isshiki, Kouta Kondou, **Yuanzhi Zhu**, and Yoshichika Otani. Influence of planar Hall effect on the output signal in a T-shaped spin conversion device, *Appl. Phys. Lett. 119, 092401* (2021)

RESEARCH EXPERIENCES

03/2023-09/2023 *Master's Thesis VLG, ETH Zurich*
Text-driven NeRF Editing with Diffusion Models (5.75/6), *Supervisor: Prof. Siyu Tang; Advisor: Dr. Anpei Chen*
- Investigated NeRF generation/editing framework that bypasses the need for extensive 3D data and instead utilizes 2D generative prior
- Studied algorithms such as Score Distillation Sampling (SDS) and Variational Score Distillation (VSD) and proposed a better explanation of how they work

05/2022-02/2023 *Semester Project CVL, ETH zurich*
Denoising Diffusion Models for Plug-and-Play Image Restoration (5.75/6), *Supervisor: Prof. Luc Van Gool; Advisor: Dr. Kai Zhang, Jingyun Liang, Jiezhang Cao*
- Investigated general image restoration tasks with score-based diffusion models
- Combined the diffusion sampling algorithm (e.g. DDIM) with Half-Quadratic Splitting (HQS) algorithm for conditional generation with less than 100 sampling steps
- Image restoration with details for severely ill-posed image restoration tasks, including image inpainting, image deblurring and super resolution

SELECTED HONORS & AWARDS

11/2018,11/2019 Academic Competition Scholarship, Beihang University (Twice)
11/2018,11/2019 Academic Excellence Scholarship, Beihang University (Twice)
02/2018 Meritorious Winner in The Mathematical Contest in Modeling
09/2017, 09/2018 Second Prize in China Undergraduate Mathematical Contest in Model (Twice)
09/2017 First Prize in Beijing Undergraduate Mathematics Competition (Ranked 87/1276, Beijing)
12/2017 First Prize in Beijing Undergraduate Physics Competition (Ranked 59/1023, Beijing)
03/2018 China Undergraduate Physics Tournament (CUPT) (Ranked 47/305)
10/2017 First-Class Scholarship, Beihang University

RESEARCH INTERESTS: **Computer Vision and Generative Models**: Diffusion Models; Medical Image Analysis; Inverse Problems; Text-to-3D Generation; Generalization of Generative Models

LANGUAGE PROFICIENCY: Chinese (Native); English (C1)