

JINFU WEI

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EDUCATION

Tsinghua University

Master of Electronic Information | GPA: 3.85/4.0

Nanshan District, Shenzhen, China

September, 2022 - Now

- Filed: Artificial Intelligence
- Research interests: 3D Face; 3D Object; Material textures; Rendering with Deep Learning.

Shanghai Polytechnic University

Bachelor of Software Engineering | GPA: 4.04/5.0

Pudong New Area, Shanghai, China

September, 2018 - July, 2022

- Shanghai Government Scholarship, 2019
- First-class scholarship of Shanghai Polytechnic University, 2020, 2021
- Golden Medal in Guangxi Collegiate Programming Contest (CCPC), 2021
- Brozen Medal in ICPC China Shaanxi National Invitational Programming Contest, 2021
- National First Prize in Lanqiao Cup Programming Contest of C/C++ , 2021

TECHNICAL SKILLS

Programming Languages: Python, C++

Libraries and Tools: PyTorch, Sklearn, OpenCV, Nvdiffrastr, Git, Latex, Blender.

WORK EXPERIENCE

Research Intern in Media Innovation Lab

Huawei Cloud Technique, Guangdong, China

June, 2023 - Now

- AIG3D research with Dr. Duan Gao

PROJECTS

- **3D Face Genreation&Edition.**
 - > **GAN-based.** We trained a StyleGAN-based generative model to build a latent space for existing 3D faces with physically-based textures. Based on the generative model, we implemented several editing operations, including DragGAN3D, facial organ replacement, text-guidance makeup, and semantic attribute manipulation(e.g. age).
 - > **Diffusion-based.** We proposed a few-shot framework to generate various physically-based facial assets. By introducing a position map ControlNet, we keep the diversity inherent in the pre-trained text-to-image LDM and transform it into 3D faces with only 36 union topology faces as training data, which can also extend to faces with different topologies (like Metahuman, Vface, HIFI3D, FLAME).
- **Diffusion-based Material Genreation.**

We modified and fine-tuned an LDM to generate tileable PBR materials with several PBR materials collected from the website. The model keeps its diversity inherent in the pre-trained text-to-image LDM and supports various manipulations based on ContolNet, IP-Adapter, etc.
- **Models' Watermark for Point Cloud Diffusion Models.**

We implemented a new pipeline to integrate the watermark into the denoising process in DDPM, which makes all the generated point clouds with a fixed watermark and keeps the original generation ability of DDPM.
- **Texture Generation for Given 3D meshes.**

Under development...

PUBLICATIONS

- ControlFace: Few-Shot 3D Face Generation via a Controllable Diffusion Model Guided by Text and Images
Jinfu Wei, Zheng Zhang, Ran Liao, Duan Gao. [Under review](#)
- UnifaceGAN: Unified Latent Space for Generating and Editing 3D Face
Jinfu Wei*, Zheng Zhang*, Ran Liao, Duan Gao. [Under review](#)
- DreamPBR: Text-driven Generation of High-resolution SVBRDF with Multi-modal Guidance
Linxuan Xin, Zheng Zhang, Jinfu Wei, Wei Gao, Duan Gao. [Under review](#)
- Dual-Process Watermarked Diffusion: Integrating Watermarking with Denoising in Point Clouds
Jinfu Wei*, Heng Chang*, Xiaohang Liu*, Li Liu, etc. [Under review](#)
- Implanting Robust Watermarks in Latent Diffusion Models for Video Generation
Xiaohang Liu, Heng Chang, Jinfu Wei, Lei Zhu, etc. [Under review](#)

LANGUAGE

- **Chinese:** Native Speaker; **English:** Work Knowledge;