

# YUEFAN SHEN

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## 🎓 EDUCATION

### Zhejiang University

Sep. 2019 - Jun. 2024

*Doctor of Philosophy(Ph.D.)*, Major in Computer Graphics, Supervised by Researcher Youyi Zheng.

### Shandong University

Sep. 2015 - Jun. 2019

*Bachelor of Engineering(B. Eng.)*, Digital Media Technology

## 🔍 RESEARCH INTERESTS

Neural computing methods in high-fidelity 3D geometry reconstruction and geometry analysis for solving challenging problems: scanned noise, various geometry representations, and domain gaps.

**Keywords:** 3D Reconstruction, Geometry Processing, Hair Modeling, Domain Alignment, etc.

## 📄 SELECTED PUBLICATIONS

[1] Keyu Wu, Lingchen Yang, Zhiyi Kuang, Yao Feng, **Yuefan Shen**, Hongbo Fu, Kun Zhou, Youyi Zheng, “MonoHair: High-Fidelity Hair Modeling from a Monocular Video,” *IEEE CVPR (Oral)*, 2024.

[2] Beijia Chen\*, **Yuefan Shen\***, Qing Shuai, Xiaowei Zhou, Youyi Zheng, “AniDress: Animatable Loose-Dressed Avatar from Sparse Views Using Garment Rigging Model,” *arXiv (In Submission)*, 2024.

[3] **Yuefan Shen**, Shunsuke Saito, Ziyang Wang, Olivier Maury, Chenglei Wu, Jessica Hodgins, Youyi Zheng, Giljoo Nam, “CT2Hair: High-Fidelity 3D Hair Modeling using Computed Tomography,” *ACM SIGGRAPH (ACM Trans. Graph.)*, 2023.

[4] Beijia Chen, **Yuefan Shen**, Hongbo Fu, Xiang Chen, Kun Zhou, Youyi Zheng, “NeuralReshaper: Single-image Human-body Retouching with Deep Neural Networks,” *Science China Information Sciences*, 2023.

[5] **Yuefan Shen\***, Yanchao Yang\*, Mi Yan, He Wang, Youyi Zheng, Leonidas Guibas, “Domain Adaptation on Point Clouds via Geometry-Aware Implicits,” *IEEE CVPR*, 2022.

[6] **Yuefan Shen\***, Yanchao Yang\*, Youyi Zheng, C. Karen Liu, Leonidas Guibas, “DCL: Differential Contrastive Learning for Geometry-Aware Depth Synthesis,” *IEEE RA-L & ICRA*, 2022.

[7] **Yuefan Shen**, Hongbo Fu, Zhongshuo Du, Xiang Chen, Evgeny Burnaev, Denis Zorin, Kun Zhou, Youyi Zheng, “GCN-Denoiser: Mesh Denoising with Graph Convolutional Networks,” *ACM Trans. Graph.*, 2022.

[8] **Yuefan Shen\***, Changgeng Zhang\*, Hongbo Fu, Kun Zhou, Youyi Zheng, “DeepSketchHair: Deep Sketch-based 3D Hair Modeling,” *IEEE Transactions on Visualization and Computer Graphics*, 2020.

## 🏢 EXPERIENCE

### Shanghai AI Lab, Shanghai, CN

Sep. 2023 - Jun. 2024

#### Research Intern

**Advisor: Bo Dai**

Towards 3D geometry reconstruction of large-scale scenes, I proposed to use a hybrid geometry representation which can both render and simulate.

### Meta Reality Labs, Pittsburgh, USA

Jul. 2022 - Dec. 2022

#### Research Scientist Intern

**Advisor: Giljoo Nam**

The development of digital entertainment leads to the growing demand for 3D hair models. To acquire realistic hairstyles without complex interactive designing, I proposed an automatic high-fidelity 3D hair modeling method using Computed Tomography during the internship.

**Zhejiang University, Hangzhou, CN**

**Teaching Assistant**

- C Programming
- Fundamental Data Structure

2019 - 2021

**Advisor: Youyi Zheng**

## OTHER PROJECTS

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### **Interactive Hair Strands Renderer**

2022

An open-source real-time hair strands visualization tool based on OpenGL and Dear ImGui. The tool supports various hair rendering settings, including strand width, hair shadow, hair occlusion, hair transparency, etc. The tool is easy to use and can help users see hair geometry details interactively.

### **Paired Objcet Depth Renderer**

2021

An open-source synthetic depth renderer for existing 3D objects and known camera poses. This tool can be used to render the 'synthetic twin' for corresponding real depth.

### **Mesh reconstruction from Noise Point Cloud**

2020

An algorithm to reconstruct meshes from noise point clouds without normal. This algorithm is a patch-based method that can predict local unsigned distance fields from points using a neural network.

## ACADEMIC SERVICES

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### **Paper Reviewer**

- ACM SIGGRAPH 2024
- ACM SIGGRAPH Aisa 2023, 2024
- IEEE CVPR 2024
- IEEE Transactions on Visualization and Computer Graphics (TVCG) 2022, 2023
- Euro Graphics 2021
- ACM Transactions on Multimedia Computing (TOMM) 2022, 2023
- The Visual Computer 2020, 2021, 2022

## HONORS AND AWARDS

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**Style3D Graduate Fellowship** (10 Ph.D. students in China)

2023

**National Scholarship** (Top 3 among 200+ Ph.D. students)

2021-2022, Zhejiang University

**The Guorui Scholarship** (Top 8 among 200+ Ph.D. students)

2019-2020, Zhejiang University

**Merit Student Award**

2019-2020, 2021-2022, Zhejiang University

**Honor Student Award**

2015-2018, Shandong University

**President's Scholarship of School of Software**

2015-2018, Shandong University

**The Second Prize Scholarship**

2015-2018, three-year continuous, Shandong University

**Gold Winner** (Top 10 among 400+ teams)

Oct.2016, in 14th Shandong Software Design Contest

## SKILLS

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- Programming: Python, C++, JAVA, Matlab, L<sup>A</sup>T<sub>E</sub>X
- Computer Graphics (OpenGL, Open3D, Blender, Houdini)
- Learning Frameworks (Pytorch, Pytorch3D, Tensorflow)
- Language: Native Mandarin, Good command of English