FENGGEN YU

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EDUCATION & HONORS

Simon Fraser University *2019-2024*
Ph.D. in Computing Science
SFU Graduate Fellowships, 2019-2022 (Top 10%)
SFU Graduate Dean's Entrance Scholarship, 2019-2023 (Top 5%)

Nanjing University *2016-2019*
Master. in Computer Science & Technology
Excellent Thesis of Master Degree, 2019 (Top 1%)
Excellent Graduate Student of Nanjing University, 2019 (Top 10%)
The National Scholarship of Graduate Student, 2018 (Top 3%)

Nanjing University *2012-2016*
B.S. in Computer Science & Technology
Excellent Undergraduate Student of Nanjing University, 2016 (Top 10%)
The National Scholarship of Undergraduate Student, 2015 (Top 3%)
The Jingchu Scholarship, 2014 (Top 20%)
The Renmin Scholarship, 2013 (Top 20%)

RESEARCH INTERESTS

Ph.D. Thesis: Learning Structured Representations of 3D CAD Models
Geometry Modeling, Geometry Deep Learning and 3D CAD Shape Analysis
Intelligent 3D Content Creation and Editing
Multi-view Shape Reconstruction, Neural Radiance Field and 3DGS

WORK EXPERIENCE

Amazon, Visual Innovation Technology 09/23/2024-Present
Full-time 3D Applied Scientist *Vancouver, Canada*

· Project Topic 1: Hierarchical 3D Segmentation based on Large-Vision-Language-Model.
· Project Topic 2: Auto orientation correction for 3D Models.

Amazon, Imaging Science 2023 Summer and Fall
Applied Scientist Intern *Vancouver, Canada*

· Project Topic: 3D Shape Reconstruction From Sparse Views.

Amazon, Imaging Science 2022 Summer and Fall
Applied Scientist Intern *Vancouver, Canada*

· Project Topic: Hierarchical Active Learning for Fine-Grained 3D Part Labeling.

Meta, Reality Lab 2021 Fall and Spring
Student Researcher *Remote*

· Project Topic: 3D Human Ear Geometry Analysis and Reconstruction.

Autodesk, AI Lab 2020 Summer-2021 Spring
Research Collaboration *Remote*

· Project Topic: Reconstructing Compact CAD Shapes with Adaptive Primitive Assembly.

PUBLICATIONS

Ruiqi Wang, Yiming Qian, Kai Wang, Maria Zontak, **Fenggen Yu**, Brian P. Jackson, Eric P. Bennett, Hao Zhang.
RESAnything: Attribute Prompting for Arbitrary Referring Segmentation
Submitted to CVPR 2025

Xiao Han, Runze Tian, Yifei Tong, **Fenggen Yu**, Dingyao Liu, Yan Zhang
ARAP-GS: Drag-driven As-Rigid-As-Possible 3D Gaussian Splatting Editing with Diffusion Prior
Submitted to CVPR 2025

Fenggen Yu, Yiming Qian, Xu Zhang, Francisca Gil-Ureta, Brian Jackson, Eric Bennett, Hao Zhang.
DPA-Net: Structured 3D Abstraction from Sparse Views via Differentiable Primitive Assembly.
The 18th European Conference on Computer Vision (ECCV) 2024.

Ruiqi Wang, Akshay Gadi Patil, **Fenggen Yu**, and Hao(Richard) Zhang.
Coarse-to-Fine Active Segmentation of Interactable Parts in Real Scene Images.
The 18th European Conference on Computer Vision (ECCV) 2024.

Mingrui Zhao, Yizhi Wang, **Fenggen Yu**, and Ali Mahdavi-Amiri.
SweepNet: Unsupervised Learning Shape Abstraction via Neural Sweepers.
The 18th European Conference on Computer Vision (ECCV) 2024.

Fenggen Yu, Qimin Chen, Maham Tanveer, Ali Mahdavi-Amiri, Hao Zhang.
D^2CSG: Unsupervised Learning of Compact CSG Trees with Dual Complements and Dropouts.
Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS) 2023.

Fenggen Yu, Yiming Qian, Francisca Gil-Ureta, Brian Jackson, Eric Bennett, Hao Zhang.
HAL3D: Hierarchical Active Learning for Fine-Grained 3D Part Labeling.
International Conference on Computer Vision (ICCV) 2023.

Fenggen Yu, Zhiqin Chen, Manyi Li, Aditya Sanghi, Hooman Shayani, Ali Mahdavi-Amiri, and Hao Zhang.
CAPRI-Net: Learning Compact CAD Shapes with Adaptive Primitive Assembly.
The IEEE / CVF Computer Vision and Pattern Recognition Conference (CVPR) 2022.

Jiongchao Jin, Arezou Fatemi, Wallace Lira, **Fenggen Yu**, Biao Leng, Rui Ma, Ali Mahdavi-Amiri and Hao(Richard) Zhang.
RaidaR: A Rich Annotated Image Dataset of Rainy Street Scenes.
ICCV 2021, Autonomous Vehicle Vision WorkShop.

Ali Mahdavi-Amiri, **Fenggen Yu**, Haisen Zhao, Adriana Schulz, and Hao Zhang.
VDAC: Volume Decompose-and-Carve for Subtractive Manufacturing.
The 13th ACM SIGGRAPH Conference and Exhibition on Computer Graphics and Techniques in Asia (SIGGRAPH Asia) 2020.

Fenggen Yu, Kun Liu, Yan Zhang, Chengyang Zhu, Kai Xu.
PartNet: A Recursive Part Decomposition Network for Hierarchical Segmentation of 3D Shapes.
CVPR 2019.

Fenggen Yu, Yan Zhang, Kai Xu, Ali Mahdavi-Amiri, Hao Zhang.
Semi-Supervised Co- Analysis of 3D Shape Styles from Projected Lines.
Transaction On Graphics (TOG) 2018, Presented on SIGGRAPH 2018.

PanPan Shui, Pengyu Wang, **Fenggen Yu**, Bingyang Hu, Yuan Gan, Kun Liu, Yan Zhang.
3D Shape Segmentation Based on Viewpoint Entropy and Projective Fully Convolutional Networks Fusing Multi-view Features.
The 24th International Conference on Pattern Recognition (ICPR), 2018.

Pengyu Wang, Yuan Gan, Panpan Shui, **Fenggen Yu**, Yan Zhang, Songle Chen, Zhengxing Sun.
3D Shape Segmentation via Shape Fully Convolutional Networks.
International Conference on Computer-Aided Design and Computer Graphics 2017.

ACADEMIA SERVICES

Reviewer: Canadian-AI 2020, Journal of Visual Communication and Image Representation (JVCI) 2020, Frontiers of Computer Science (FCS) 2020-2021, IET Computer Vision (IET) 2022, Graphics and Visual Computing (GVC) 2022, IEEE Transactions on Visualization and Computer Graphics (TVCG) 2022, IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) 2022, International Conference on Computer Animation and Social Agents (CASA) 2023, ICCV 2023, CVPR 2023-2024, IEEE Transactions on Image Processing (TIP) 2023, The 45th Annual Conference of the European Association for Computer Graphics (EG) 2024, ECCV 2024, SIGGRAPH 2024, SIGGRAPH Asia 2024, AAAI 2024, ACCV 2024, TVCG 2024-2025, TOG 2024, TPAMI 2024-2025, EG 2025, CVPR 2025 and SIGGRAPH 2025.
Organizer: The first 3D Vision and Modeling Challenges in eCommerce Workshop in ICCV 2023.
The second 3D Vision and Modeling Challenges in eCommerce in ECCV 2024.
Program Committee in AAAI 2024.
Technical Papers Committee Members in SIGGRAPH 2025.