FENGGEN YU

Homepage: https://fenggenyu.github.io
yufg1994@gmail.com

EDUCATION & HONORS

Simon Fraser University *09/01/2019-04/30/2024*
Ph.D. in Computing Science under Faculty of Applied Science
SFU FAS Graduate Fellowships, 2023-2024 (Top 5%)
SFU CMPT Graduate Fellowships, 2019-2022 (Top 10%)
SFU Graduate Dean's Entrance Scholarship, 2019-2023 (Top 5%)

Nanjing University *09/01/2016-06/30/2019*
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 *09/01/2012-06/30/2016*
B.S. in Computer Science & Technology
Excellent Undergraduate Student of Nanjing University, 2016 (Top 10%)
The National Scholarship of Undergraduate Student, 2015 (Top 3%)

RESEARCH INTERESTS

The field of Computer Graphics and 3D Computer Vision
Experts in areas of 3D Shape Analysis/Segmentation, 3D Model Reconstruction and Processing.

INDUSTRIAL WORK EXPERIENCE

Amazon, Customer Engagement Technology 01/14/2024-Present
Full-time Applied Scientist *Vancouver, Canada*

· Project Topic: Building the visual-intelligent ChatBot based on LLM-Agent and Computer Vision Technologies.
· Sub-Topic 1: Product matching.
· Sub-Topic 2: Image damage verification.

Amazon, Visual Innovation Technology 09/23/2024-01/13/2024
Full-time Applied Scientist *Vancouver, Canada*

· Project Topic: Building the next generation 3D virtual visual experience for online shopping.
· Sub-Topic 1: 3D model auto-orientation.
· Sub-Topic 2: Hierarchical fine-grained 3D semantic segmentation.

Amazon, Visual Innovation Technology 05/23/2023-10/27/2023
Applied Scientist Intern *Vancouver, Canada*

· Project Topic: 3D shape reconstruction of online products from sparse scanned views.

Amazon, Visual Innovation Technology 06/13/2022-11/18/2022
Applied Scientist Intern *Vancouver, Canada*

· Project Topic: Hierarchical active learning for fine-grained 3D part labeling of online products.

Meta, Reality Lab 08/30/2021-04/01/2022
Research Intern *Remote, Canada*

· Project Topic: 3D human ear geometry analysis and reconstruction for hearing aid.

Huawei, 2012 Lab 06/07/2021-08/27/2021
Research Engineer Intern *Remote, Canada*

· Project Topic: 3D object reconstruction from single view for gaming engine.

PUBLICATIONS

Hao Sun, **Fenggen Yu**, Huiyao Xu, Tao Zhang, Changqing Zou
LL-Gaussian: Low-Light Scene Reconstruction and Enhancement via Gaussian Splatting for Novel View Synthesis
ACM MM 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
Under review

Yifei Tong, Runze Tian, Xiao Han, Dingyao Liu, **Fenggen Yu**, Yan Zhang.
CAGE-GS: High-fidelity Cage Based 3D Gaussian Splatting Deformation
Under review

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
Under review

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) 2020,2021,2025, 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 2023-2025, CVPR 2023-2025, IEEE Transactions on Image Processing (TIP) 2023, The 45th Annual Conference of the European Association for Computer Graphics (EG) 2024-2025, ECCV 2024, SIGGRAPH 2024-2025, SIGGRAPH Asia 2024, AAAI 2024, ACCV 2024, TVCG 2024-2025, TOG 2024-2025, TPAMI 2024-2025

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.

INVITED TALKS

Presenter: **Fenggen Yu** Ali Mahdavi-Amiri
Topic: Co-analysis 3D Shape Style.
Inviter and details: SIGGRAPH 2018, 1055 Canada Pl, Vancouver, BC V6C 0C3, 2018-8-12 2018-8-16.

Presenter: **Fenggen Yu**
Topic: PartNet Spotlight Presnetation.
Inviter and details: VALSE 2019, Anhui International Convention and Exhibition Center, No. 272 Fanhua Avenue, Shushan District, Hefei, April 11–14, 2019.

Presenter: **Fenggen Yu**
Topic: Learning Structured Representations of 3D CAD Models.
Inviter and details: Online Platform on Computer Graphics and Mixed Reality, https://games-cn.org/games-webinar-20240919-340/, September 16, 2024.

FUNDED RESEARCH PROJECTS

Project Name: Learning Generative Models of 3D Shapes and Environments
Role in the Project: Participant
Fund details: NSERC Discovery Grant 2019-2025, $64,000 per year; total: $384,000