Haoran MO

Personal Information

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Research Interests

I work on deep learning based Computer Graphics and Computer Vision, particularly in sketch understanding and generation, line drawing-based content generation (AIGC) and 2D animation.

Education

Sep 2020 - June 2024	Ph.D. at **Sun Yat-sen University**, Guangzhou Major: Software Engineering Thesis: "Sketch Generation and Representation Based on Multi-Perspective Understanding"
Sep 2018 - June 2020	Master of Science in Engineering, **Sun Yat-sen University**, Guangzhou Major: Software Engineering Thesis: "Automatic Colorization of Scene Sketches Based on Deep Learning"
Sep 2014 - June 2018	Bachelor Degree in Engineering, **Sun Yat-sen University**, Guangzhou Major: Software Engineering Thesis: "Sketch Recognition and Semantic Segmentation Based on Neural Network"

Publications

1. **Haoran Mo**, Chengying Gao* and Ruomei Wang. Joint Stroke Tracing and Correspondence for 2D Animation. *ACM Transactions on Graphics* (Presented at SIGGRAPH 2024).
2. **Haoran Mo**, Edgar Simo-Serra, Chengying Gao*, Changqing Zou and Ruomei Wang. General Virtual Sketching Framework for Vector Line Art. *ACM Transactions on Graphics* (SIGGRAPH, Journal track), 2021.
3. Changqing Zou†, **Haoran Mo**†(equal contribution), Chengying Gao*, Ruofei Du and Hongbo Fu. Language-based Colorization of Scene Sketches. *ACM Transactions on Graphics* (SIGGRAPH Asia, Journal track), 2019.
4. **Haoran Mo**, Xusheng Lin, Chengying Gao* and Ruomei Wang. Text-based Vector Sketch Editing with Image Editing Diffusion Prior. *IEEE International Conference on Multimedia & Expo* (ICME), 2024.
5. Zhuo Xie, **Haoran Mo** and Chengying Gao*. Video-Driven Sketch Animation via Cyclic Reconstruction Mechanism. *IEEE International Conference on Multimedia & Expo* (ICME), 2024.
6. Xinru Liang, **Haoran Mo** and Chengying Gao*. Controllable Garment Image Synthesis Integrated with Frequency Domain Features. *Computer Graphics Forum* (Pacific Graphics, Journal track), 2023.
7. Peng Ling, **Haoran Mo** and Chengying Gao*. Multi-instance Referring Image Segmentation of Scene Sketches based on Global Reference Mechanism. *Pacific Graphics*, 2022.

8. Yue Huang, **Haoran Mo**, Xiao Liang and Chengying Gao*. Unpaired Motion Style Transfer with Motion-oriented Projection Flow Network. *IEEE International Conference on Multimedia & Expo* (ICME), 2022.
9. Ruizhi Cao, **Haoran Mo** and Chengying Gao*. Line Art Colorization Based on Explicit Region Segmentation. *Computer Graphics Forum* (Pacific Graphics, Journal track), 2021.
10. Changqing Zou†, Qian Yu†, Ruofei Du, **Haoran Mo**, Yi-Zhe Song, Tao Xiang, Chengying Gao, Baoquan Chen* and Hao Zhang. SketchyScene: Richly-Annotated Scene Sketches. *European Conference on Computer Vision* (ECCV), 2018.

Other Experience

May-July 2019	Research Intern, **Waseda University**, Tokyo Adviser: Prof. Edgar Simo-Serra Research on sketch generation and simplification.

Talks

Aug 2021	"General Virtual Sketching Framework for Vector Line Art" *SIGGRAPH 2021* (virtual)
May 2021	"General Virtual Sketching Framework for Vector Line Art" *CAD/Graphics 2021* (Xi'an, China)
Nov 2019	"Language-based Colorization of Scene Sketches" *SIGGRAPH Asia 2019* (Brisbane, Australia)

Awards

- CAD & CG Excellent Student Award, 2021.

Academic Service

- Reviewer for conferences: SIGGRAPH, Eurographics(EG), Pacific Graphics(PG).
- Reviewer for journals: TOG, CGF.

Skills

- Programming Languages: Python, Matlab
- Deep Learning Frameworks: Tensorflow, PyTorch

Languages

- Mandarin (Basic), Cantonese (Native), English (Fluent)