Mia Tang

Ph.D. Student, Computer Science Department
Stanford University

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Research Interests

Computer graphics; generative vision-language models;
controllable 2D and 3D generation; sketch-based generation

Education

Stanford University, Stanford, CA   2025 ~ Present
Ph.D., Computer Science
First-year Rotation Advisors: Maneesh Agrawala (Fall), C. Karen Liu (Winter), Leonidas J. Guibas (Spring)

Stanford University, Stanford, CA   2023 ~ 2025
Master of Science, Computer Science
Advisor: Maneesh Agrawala

Carnegie Mellon University, Pittsburgh, PA   2018 ~ 2023
Bachelor of Computer Science and Arts
Advisor: Jun-Yan Zhu

Academic Publications

Conference Papers

[p.4]   **Mia Tang**, Yael Vinker, Chuan Yan, Lvmin Zhang, Maneesh Agrawala. 2025.
            Instance Segmentation of Scene Sketches Using Natural Image Priors. ACM SIGGRAPH
            (SIGGRAPH '25).

[p.3]   Michelle Guo*, **Mia Tang***, Hannah Cha, Ruohan Zhang, C. Karen Liu, Jiajun Wu. 2025.
            ShapeCraft: Body-Aware and Semantics-Aware 3D Object Design. IEEE/CVF Winter
            Conference on Applications of Computer Vision (WACV '25).

[p.2]   Vishnu Sarukkai, Lu Yuan*, **Mia Tang***, Maneesh Agrawala, Kayvon Fatahalian. 2024. Block
            and Detail: Scaffolding Sketch-to-Image Generation. ACM Symposium on User Interface
            Software and Technology (UIST '24).

[p.1]   Daohan Lu*, Sheng-Yu Wang*, Nupur Kumari*, Rohan Agarwal*, **Mia Tang**, David Bau,
            Jun-Yan Zhu. 2023. Content-Based Search for Deep Generative Models. ACM Transactions on
            Graphics (SIGGRAPH Asia '23).

Organized Workshops

[ow.7]   Yael Vinker, **Mia Tang**. 2025. Drawing & Sketching: Art, Psychology, and Computer Graphics
            – Technical Workshop (SIGGRAPH Workshop '25).

[ow.6]   Rajesh Sharma, **Mia Tang**. 2025. Introduction to Generative Machine Learning. ACM Transactions on Graphics – Workshop (SIGGRAPH Hand-on Lab '25).

[ow.5]   Anyi Rao, Yuanbo Xiangli, Yuwei Guo, **Mia Tang**, Chenlin Meng, Maneesh Agrawala. 2024. Generative Models for Visual Content Editing and Creation. ACM Transactions on Graphics – Workshop (SIGGRAPH Workshop '24).

[ow.4]   Rajesh Sharma, **Mia Tang**. 2024. Introduction to Generative Machine Learning. ACM Transactions on Graphics – Workshop (SIGGRAPH Workshop '24).

[ow.3]   Anyi Rao, Aleksander Holynski, Jon Barron, Fabian Caba, Ruihang Zhang, **Mia Tang**, Yuwei Guo, Victor Escorcia, Linning Xu, Jean-Peic Chou, Elia Peruzzo, Yu Xiong, Ali Thabet, Dong Liu, Dahua Lin, Bernard Ghanem, Angjoo Kanazawa, Alexei A. Efros, Maneesh Agrawala. The Future of Generative Visual Art. The IEEE / CVF Computer Vision and Pattern Recognition Conference – Workshop (CVPR Workshop '24).

[ow.2]   Rajesh Sharma, **Mia Tang**. 2023. Introduction to Generative Machine Learning. ACM Transactions on Graphics – Workshop (SIGGRAPH Asia Workshop '23).

[ow.1]   Rajesh Sharma, **Mia Tang**. 2023. Introduction to Generative Machine Learning. ACM Transactions on Graphics – Workshop (SIGGRAPH Workshop '23).

Research Experience

2023 ~ Present   **Stanford University**, Stanford, CA
Research Assistant
Mentors: Maneesh Agrawala

2023 ~ 2024   **Stanford University,** Stanford, CA
Research Assistant @ Stanford Vision and Learning Lab (SVL)
Mentors: Jiajun Wu & Karen Liu

2022 ~ 2023   **Carnegie Mellon University**, Pittsburgh, PA
Research Assistant
Mentors: Jun-Yan Zhu

2021~ 2022   **Carnegie Mellon University**, Pittsburgh, PA
Research Assistant
Mentors: Kyuha Shim

2021/2 ~ 5   **Carnegie Mellon University**, Pittsburgh, PA
Research Assistant
Mentors: Joshua Sunshine

2020 ~ 2021   **Carnegie Mellon University,** Pittsburgh, PA
Research Assistant @ CMU Robotics Institute Project – Iris Lunar Rover
Mentors: Connor Colombo

Industry Experience

2023/5 ~ 12   **Adobe Research**, San Jose, CA
Research Engineer Intern @ RED (Research Engineering, and Design Team)

2022/6 ~ 8   **Cesium**, Philadelphia, PA
Software Developer Intern

2021/5 ~ 8   **Jam3**, Toronto, Canada
Developer Intern

Teaching

Winter 2023   **Course Assistant, CS 248A: Computer Graphics: Rendering, Geometry, and Image Manipulation, Stanford University**, Stanford, CA

Fall 2023   **Course Assistant, CS 147: Introduction to Computer Graphics and Imaging Stanford University**, Stanford, CA

Spring & Fall 2022   **Teaching Assistant, 15-462/662: Computer Graphics Carnegie Mellon University**, Pittsburgh, PA

Spring & Summer 2020   **Teaching Assistant, 15-150: Principles of Functional Programming Carnegie Mellon University,** Pittsburgh, PA

Youth Education & Outreach

2024   **St. Elizabeth Ann Seton School,** Palo Alto, CA
Preschool Math Tutor
- Taught basic mathematical concepts, such as counting, comparing, and one-to-one correspondence, to preschool students (under 5 years old) using teaching props.

2017 ~ 2018   **PALS Autism School,** Vancouver, B.C., Canada
Classroom Assistant Volunteer
- Assisted teachers in preparing classroom materials and activities to support the learning and development of students on the autism spectrum.

Art Exhibition

2017/8   **Moneterre Financial Cup Canadian Youth Visual Art Competition,** Vancouver, Canada
Received *Best Painting Award* & *The Golden PaintBrush Award*.

2017/6   **Group exhibition at Life of Art Young Artist Exhibition**, Vancouver, Canada
Presented my three oil on canvas paintings at the exhibition.

Other Experience

2024   **Stanford Graphics Lunch Seminar (G-Cafe)**
Co-organizer
- Co-organize a weekly academic seminar that brings together faculty, students, and visiting speakers to present and discuss the latest research in computer graphics.
- Design and create personalized cartoon bunnies as unique thank-you gifts for speakers, adding a creative and memorable touch to the seminar experience.

2022 ~ Present   **Personal Blog & Social Media Platforms**
Educational Content Creator & Illustrator
- Conceptualized, designed, and distributed 60+ illustrations on complex technology concepts such as diffusion model, autoencoder, GANs, and fundamental Computer Graphics concepts such as Ray Tracing and Bounding Volume Hierarchy, with the aim to share knowledge in simple and creative approaches.
- Engaged with over 1 million people, with a single Tweet on Anti-Aliasing reaching

800K+ unique impressions and 100K+ engagements. Multiple artworks have been featured in tech community blogs and used as teaching materials at institutions such as Carnegie Mellon University, Oakland University and Delft University of Technology.

- Developed illustrative teaching materials for conference courses [ow. 1-5] at top academic venues like SIGGRAPH and CVPR, including the repeatedly offered SIGGRAPH course on introductions to generative machine learning [ow.1, ow.2, ow.4] , which consistently attracts over 600 attendees each time.

2021 ~ 2022 **Lunar Gala**, Pittsburgh, PA
Head of Web

- Led the web design & dev team of 10, shaped the technical roadmap and provided guidance on technical decisions. Lunar Gala is an annual student-run fashion show.
- Maintained and developed new features such as Landing and Lines pages to help create an informative platform for potential fashion show attendees to attain key information, e.g., fashion lines, ticketing, and livestream access.