LVMIN (LYUMIN) ZHANG
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EDUCATION

Soochow University, B.Eng. Software Engineering — September 2015 – June 2021

- GPA 3.7/4 (88/100), rank 6/65 (9.2%), with Outstanding Thesis Honor (top 5%).

PROJECT

Style2Paints (github.com/lllyasviel/style2paints) — Star 14,313 · Watch 558 · Fork 1814

- *Style2Paints* is a line drawing coloring and shading software that not only add colors to line drawings but also generate color gradients and textures.
- The software uses image-to-image translation to produce image layers for mainstream artistic drawing workflows.
- The backend consists of both machine learning models and classic/statistic image optimization algorithms.
- *Style2Paints* is popular ($>$ 14k github stars) with about 293,000 artists from different countries using it.

PaintingLight (github.com/lllyasviel/PaintingLight) — Star 557 · Watch 18 · Fork 89

- *PaintingLight* is a project conducted to investigate how artists add illumination and lighting effects to their artworks, and how we can simulate this procedure to assist such workflow.
- The main idea is that the physical illumination and painted illumination are different, and we need to observe the real painting behaviors and procedures of artists so that we can model the illumination in their artworks.
- This project does not use machine learning!

DanbooRegion (github.com/lllyasviel/DanbooRegion) — Star 229 · Watch 11 · Fork 24

- *DanbooRegion* is an image region segmentation dataset for artworks and illustrations.
- The dataset is annotated using a human-in-the-loop approach, where artists work with an artificial neural network to segment the images into pieces based on their human perception and the needs of artistic creations.
- The dateset *DanbooRegion* is practically useful in many cartoon image processing tasks and artistic problems in computer graphics, *e.g.*, artwork coloring, texturing, tracking, animating, *etc.*

PUBLICATION

SIGGRAPH/SIGGRAPHASIA/TOG:

Lvmin Zhang, Edgar Simo-Serra, Yi Ji, and Chunping Liu. "Generating Digital Painting Lighting Effects via RGB-space Geometry". ACM Transactions on Graphics (Presented in SIGGRAPH 2020), 39-2, January 2020.
(Covered by *Two Minute Papers*)
↑ This paper does not use machine learning!

Lvmin Zhang, Chengze Li, Tien-tsin Wong, Yi JI, and Chunping Liu. "Two-stage Sketch Colorization". ACM Transactions on Graphics (SIGGRAPH ASIA 2018), 37-6, June 2018.

CVPR/ICCV/ECCV:

Lvmin Zhang, Jinyue Jiang, Yi JI, and Chunping Liu. "SmartShadow: Artistic Shadow Drawing Tool for Line Drawings". International Conference on Computer Vision (ICCV), Dec 2021. (Oral, 3%)

Lvmin Zhang, Chengze Li, Edgar Simo-Serra, Yi JI, Tien-Tsin Wong, and Chunping Liu. "User-Guided Line Art Flat Filling with Split Filling Mechanism". IEEE Conference on Computer Vision and Pattern Recognition (CVPR), June 2021.

Lvmin Zhang, Xinrui Wang, Qingnan Fan, Yi JI, and Chunping Liu. "Generating Manga from Illustrations via Mimicking Manga Creation Workflow". IEEE Conference on Computer Vision and Pattern Recognition (CVPR), June 2021.

Lvmin Zhang, Yi JI, and Chunping Liu. "DanbooRegion: An Illustration Region Dataset". European Conference on Computer Vision (ECCV), May 2020.

Lvmin Zhang, Chengze Li, Yi JI, Chunping Liu, and Tien-tsin Wong. "Erasing Appearance Preservation in Optimization-based Smoothing". European Conference on Computer Vision (ECCV), May 2020. (Spotlight, 5%)
↑ This paper does not use machine learning!

Other:

Lvmin Zhang, and Chengze Li. "Screenshots from Screen Photography". In Special Interest Group on Computer Graphics and Interactive Techniques Conference Posters (SIGGRAPH '21 Posters), August 2021.

Lvmin Zhang, Yi Ji and Chunping Liu. "Style Transfer for Anime Sketches with Enhanced Residual U-net and Auxiliary Classifier GAN". Asia Conference on Pattern Recognition (ACPR), June 2017.
(the most cited paper of ACPR 2017)

THESIS

Lvmin Zhang. "Deep Learning and Adversarial Learning for Line Drawing Coloring and Shading". Bachelor Thesis of Soochow University, January 2021.

EXPERIENCE

Style2Paints Research, Founder June 2018 – Present

- Founded the Style2Paints Research (https://lllyasviel.github.io/Style2PaintsResearch), a non-commercial research group aimed at improving techniques for digital painting, illustration, content creation, cartoon processing, *etc.*
- Granted memberships to 4 researchers, 4 engineers, and 22 artists (4 artists has signed long-term services with Style2Paints Research, while the remaining 18 artists do part-time works).
- Collaborated with people and research projects around the world from the University of Tokyo, Stanford University, Waseda University, the Chinese University of Hong Kong, ByteDance, Tencent, *etc.*

The Chinese University of Hong Kong, Research Assistance October 2021 – Present

- Conducted computer graphic researches in computational art and design, animation, image/video processing, *etc.*

Preferred Networks Inc., Algorithm Service (collaborated with **Pixiv Inc.**) November 2017 – November 2018

- Worked for a line drawing coloring APP "PaintsChainer" or called "Petalica Paint" (https://petalica-paint.pixiv.dev).
- Improved the line drawing processing techniques using deep image-to-image translation models and classic image optimization methods.
- Signed an agreement of cooperation services with Toru Nishikawa, the President and CEO of Preferred Networks Inc..

Medical College of Soochow University, Transfer Program September 2015 – June 2016

- Spent two semesters in clinical medicine techniques, *e.g.*, Cell Biology, Systematic Anatomy, Organic Chemistry, *etc.*

PROFESSIONAL ACTIVITY

Conference reviewer: SIGGRAPH 2019 – 2020, SIGGRAPH Asia 2019 – 2020, *etc.*
Journal referee: IEEE TVCG 2019 – 2021, ACM CAVW 2019 – 2021, *etc.*
Teaching assistance: Soochow University COMS3010 Advanced Database Techniques 2017.

TALK

Anime Expo, Industrial Talker, "Deep Learning for Artists", U.S. Los-Angles, June 2018

AWARD & EVENT

Excellent Bachelor Thesis Award, Soochow University.
Book Cover of ACM Transactions on Graphics, volume 39 issue 2, technical paper featured as the cover of journal.

PATENT

CN108615252A, "The Training Method and Device of Coloring Model on Line Drawings Based on Reference Images".

MEDIA

This is an inconclusive list (updated at June 2020).
(2020) **Two Minutes Paper.** "Now We Can Relight Paintings…and Turns Out, Photos Too!"
(2020) **Synced.** "New White-Box Framework Will Cartoonize Your World!"
(2019) **Synced.** "Style2Paints: A professional painting tool."
(2019) **Synced.** "Five most starred deep learning project on GitHub."
(2019) **Qubit.** "A new version of the super hot comic line draft coloring AI is released!"

SKILL & LANGUAGE

Programming: Unity, Python, TensorFlow, PyTorch, C, C++, C#, JavaScript, LaTeX, Matlab.
Language: Chinese (native), English (fluent), and Japanese (learning).