Junyi Zhang

✉ junyi42zhang@gmail.com ◇ ⌨ Junyi42 ◇ 🌐 junyi42.com

RESEARCH INTERESTS

My research interests mainly lie in **computer vision**, **deep generative models**, and **representation learning**. I am now focusing on the **application of diffusion models**, exploring its potential for **both generation and perception scenarios**. I also have a background in action recognition, self-supervised learning, and other modalities including video, 3D, human motion, and language.

EDUCATION

Berkeley AI Research, University of California at Berkeley   California, United States
Ph.D. in Computer Science, Advised by *Prof. Trevor Darrel*   Aug. 2024 - Present

SEIEE, Shanghai Jiao Tong University   Shanghai, China
B.Eng. in Computer Science and Technology (Zhiyuan Honors Program of Eng., Top 5%)   Sept. 2020 - June 2024

SELECTED PUBLICATIONS

MonST3R: A Simple Approach for Estimating Geometry in the Presence of Motion
Junyi Zhang, Charles Herrmann[+], Junhwa Hur, Varun Jampani, Trevor Darrell, Forrester Cole, Deqing Sun*, Ming-Hsuan Yang*.
ICLR, 2025. [Monst3r-project.github.io] [ArXiv:2410.03825]

DenseMatcher: Learning 3D Semantic Correspondence for Category-Level Manipulation from One Demo
Junzhe Zhu*, Yuanchen Ju*, Junyi Zhang, Muhan Wang, Zhecheng Yuan, Kaizhe Hu, Huazhe Xu.
ICLR, 2025. [DenseMatcher.github.io] [ArXiv:2412.05268]

Telling Left from Right: Identifying Geometry-Aware Semantic Correspondence
Junyi Zhang, Charles Herrmann, Junhwa Hur, Eric Chen, Varun Jampani, Deqing Sun*, Ming-Hsuan Yang*.
CVPR, 2024. [Telling-Left-from-Right.github.io] [ArXiv:2311.17034]

A Tale of Two Features: Stable Diffusion Complements DINO for Zero-Shot Semantic Correspondence
Junyi Zhang, Charles Herrmann, Junhwa Hur, Luisa F. Polanía, Varun Jampani, Deqing Sun, Ming-Hsuan Yang.
NeurIPS, 2023. [SD-Complements-DINO.github.io] [ArXiv:2305.15347]

LayoutDiffusion: Improving Graphic Layout Generation by Discrete Diffusion Probabilistic Models
Junyi Zhang, Jiaqi Guo, Shizhao Sun, Jian-Guang Lou, Dongmei Zhang.
ICCV, 2023. [Layoutdiffusion.github.io] [ArXiv:2303.11589]

EXPERIENCE

Google DeepMind, Cambridge   *Remote*
Research Collaborater – Supervisor: *Prof.* Ming-Hsuan Yang and *Dr.* Deqing Sun   April 2023 - Present
- Explore and improve diffusion representations for semantic correspondence
- Explore methods for feed-forward 4D reconstruction from single video

University of California, Merced - Vision Learning Lab   *Merced, California*
Visiting Student – Supervisor: *Prof.* Ming-Hsuan Yang   June 2023 - Oct. 2023
- Explore and improve diffusion representations for semantic correspondence

Microsoft Research Asia - Data, Knowledge and Intelligence Group   *Beijing, China*
Research Intern – Mentor: *Dr.* Shizhao Sun and *Dr.* Jian-Guang Lou   July 2022 - Dec. 2022
- Build discrete diffusion models for layout synthesis

Shanghai Jiao Tong University - Machine Vision and Intelligence Group   *Shanghai, China*
Undergraduate Research Intern – Supervisor: *Prof.* Yong-Lu Li   Oct. 2021 - April 2023

- Build diffusion models for interactive motion generation
- Experiment on extending multimodal action recognition to video dataset
- Experiment on incorporating human knowledge into HOI detection

SELECTED AWARDS

Best Bachelor Thesis (Top 1%, ranked 1st in CS Department)   2024
Outstanding Graduate of Shanghai (Top 3%)
SenseTime Scholarship (30 undergraduate AI researcher nationwide)   2023
Microsoft Research "Stars of Tomorrow" Certificate (Top 10% interns)   2022
Huawei Fellowship (Top 1% in honors program)
National Scholarship (Top 0.2% nationwide, highest honor in China)   2021
Outstanding Undergraduate Scholarship, A Level, SJTU (Top 1%)

SKILLS

- **Skills:** Python (Pytorch), C/C++, html, css, Linux, LaTeX, Assembly language
- **Languages:** English (TOEFL 105/120), Chinese (Native)

REFERENCES

- **Trevor Darrell**, Professor of EECS, University of California at Berkeley
- **Ming-Hsuan Yang**, Professor of EECS, University of California at Merced; Research Scientist, Google DeepMind
- **Deqing Sun**, Research Scientist, Google DeepMind
- **Varun Jampani**, Lead Researcher, Stability AI
- **Jian-Guang Lou**, Principal Researcher, Microsoft Research
- **Shizhao Sun**, Senior Researcher, Microsoft Research
- **Yong-Lu Li**, Assistant Professor of Computer Science Shanghai Jiao Tong University