Minguk Kang

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Chungam-Ro 77, POSTECH, Pohang-Si, Republic of Korea (37673)

EDUCATION

POSTECH, Pohang, Republic of Korea

- Ph.D in Graduate School of AI — Feb 2020 – Present
  - Advisors: Professors Suha Kwak (2023-current) & Jaesik Park (2020-2023)
  - Interest: One-step Image Synthesis Models, such as GANs and Consistency Models
  - GPA: 4.09/4.30

Pusan National University, Busan, Republic of Korea

- B.S. in Engineering — Mar 2013 – Aug 2019
  - Major: Mechanical Engineering, Minor: Statistics
  - Summa Cum Laude (graduated at the top of college of engineering, 1/394)

RESEARCH EXPERIENCE

Pika labs, Remote work at Korea

- Founding Research Scientist — Nov 2024 – Present

Pika labs, Palo Alto, USA

- Research Scientist Intern — Jun 2024 – Oct 2024
  - Working with Chenlin Meng

Adobe Research, Remote work at Korea & On-site work at San Francisco

- Research Scientist Intern — Jul 2022 – May 2024
  - Working with Taesung Park, Connelly Barnes, Eli Shechtman, Jun-Yan Zhu, Richard Zhang, Sylvain Paris

Vision and Intelligent System Laboratory, Pusan National University

- Undergraduate Research Student — Aug 2017 – Jan 2020
  - Adviser: Professor Dongjoong Kang

PUBLICATIONS

CONFERENCES

[C9] Minguk Kang, Richard Zhang, Connelly Barnes, Sylvain Paris, Suha Kwak, Jaesik Park, Eli Shechtman, Jun-Yan Zhu, Taesung Park, "Distilling Diffusion Models into Conditional GANs", In *European Conference on Computer Vision (ECCV)*, 2024.

[C8] Seoyeon Kim, Minguk Kang, Dongwon Kim, Jaesik Park, Suha Kwak, "Extending CLIP's Image-Text Alignment to Referring Image Segmentation", In *Annual Conference on the North American Chapter of the Association for Computational Linguistics (NAACL)*, 2024.

[C7] Joonghyuk Shin, Minguk Kang, and Jaesik Park, "Fill-Up: Balancing Long-Tailed Data with Generative Models", arXiv preprint arXiv:2306.07200, 2023.

[C6] Tony Lee, Michihiro Yasunaga, Chenlin Meng, Yifan Mai, Joon Sung Park, Agrim Gupta, Yunzhi Zhang, Deepak Narayanan, Hannah Benita Teufel, Marco Bellagente, Minguk Kang, Taesung Park, Jure Leskovec, Jun-Yan Zhu, Li Fei-Fei, Jiajun Wu, Stefano Ermon, and Percy Liang, "Holistic Evaluation of Text-to-Image Models", In *International Conference on Neural Information Processing Systems (NeurIPS), Datasets and Benchmarks Track*, Spotlight, 2023.

[C5] Minguk Kang, Jun-Yan Zhu, Richard Zhang, Jaesik Park, Eli Shechtman, Sylvain Paris, and Taesung Park, "Scaling up GANs for Text-to-Image Synthesis", In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Highlight*, 2023.

[C4] Jinoh Cho, Minguk Kang, Vibhav Vineet, and Jaesik Park, "Context-Aware Image Completion", AI for Content Creation (AI4CC) CVPR workshop, 2023.

[C3] Minguk Kang, Woohyeon Shim, Minsu Cho, and Jaesik Park, "Rebooting ACGAN: Auxiliary Classifier GANs with Stable Training", In *International Conference on Neural Information Processing Systems (NeurIPS)*, 2021.

[C2] Minguk Kang and Jaesik Park, "ContraGAN: Contrastive Learning for Conditional Image Generation", In *International Conference on Neural Information Processing Systems (NeurIPS)*, 2020.

[C1] Minguk Kang, Honghyun Kim, and Dongjoong Kang, "Finding a High Accuracy Neural Network for the Welding Defects Classification Using Efficient Neural Architecture Search via Parameter Sharing", In *International Conference on Control Automation and Systems (ICCAS)*, IEEE, 2018, pp. 402-405.

JOURNALS

[J2] Minguk Kang, Joonghyuk Shin, and Jaesik Park, "StudioGAN: A Taxonomy and Benchmark of GANs for Image Synthesis", *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2023*.

[J1] Hyojung Ahn, Hanlim Choi, Minguk Kang, and Sungtae Moon, "Learning-Based Anomaly Detection and Monitoring for Swarm Drone Flights", *Applied Science*, 2019, 9, 5477.

SOFTWARE

Adobe Firefly

- Firefly is Adobe's visual generative AI for image generation and manipulation. My research significantly contributed to the development of Firefly.

PyTorch StudioGAN (★3400+)

- Pytorch library providing implementations of representative Generative Adversarial Networks (GANs).

AWARDS & SCHOLARSHIP

Outstanding Reviewer, European Computer Vision Association, Oct, 2024

Graduate School Presidential Science Scholarship, Korea Student Aid Foundation, Mar, 2024

2nd Prize, BK21 outstanding paper awards, POSTECH Graduate School of AI, Jan, 2024

1st Prize, BK21 outstanding paper awards, POSTECH Graduate School of AI, Jan, 2022

Qualcomm Innovation Fellowship Korea, Qualcomm, Nov, 2021

Silver Prize, 16th Samsung Electro-Mechanics Paper Awards, 2020

National Science and Engineering Scholarship, Korea Student Aid Foundation

- Received full scholarship for 8 semesters. Mar 2013 – Aug 2019

TALKS

Tech Talk:

- Distilling Diffusion Models into Conditional GANs, Samsung Research, 2024.
- Scaling up GANs for Text-to-Image Synthesis, Kakao Brain, NAVER, LG AI Research, and Samsung Research, 2023.
- Demystifying the Instability in ACGAN and Providing Large-scale GAN Benchmark for Fair Evaluation, UNIST, 2022.
- Rebooting ACGAN: Auxiliary Classifier GANs with Stable Training, NAVER and EIRIC.

ACADEMIC SERVICES

Reviewer

- Conference Reviewer 2024: ECCV, SIGGRAPH Asia
- Conference Reviewer 2023: ICML, ICCV, NeurIPS
- Journal Reviewer 2022: IJCV
- Conference Reviewer 2022: ICLR, CVPR, ECCV, NeurIPS

PROFICIENCIES

General Skill

- Language: Korean (Native), English (Conversational)
- Machine Learning Library: TensorFlow (Advanced), PyTorch (Advanced)