

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
 - Interest: One-step Image Synthesis Models, such as GANs and Consistency Models
 - GPA: 4.11/4.30

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

Adobe Research Creative Intelligence Lab, Remote work at Korea & San Francisco

- Research Intern Jul 2022 – Present
 - Mentors: Taesung Park, Sylvain Paris, and Eli Shechtman
 - Coworkers: Jun-Yan Zhu, Richard Zhang, and Connelly Barnes

Computer Vision Laboratory, Pohang, Republic of Korea

- Graduate Student Feb 2020 – Present
 - Adviser: Professors Suha Kwak (2023-current) & Jaesik Park (2020-2023)

Vision and Intelligent System Laboratory, Pusan National University

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

PUBLICATIONS

CONFERENCES

- [C8] Seoyeon Kim, Minguk Kang, and Jaesik Park, “RISCLIP: Referring Image Segmentation Framework using CLIP”, Under submission, 2023.
- [C7] Joonghyuk Shin, Minguk Kang, and Jaesik Park, “Fill-Up: Balancing Long-Tailed Data with Generative Models”, Under submission, 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.

OPEN SOURCE

PyTorch StudioGAN (★3300+)

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

AWARDS & SCHOLARSHIP

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

Qualcomm Innovation Fellowship Korea, Qualcomm, November 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:

- 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 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)