

MinGuk Kang

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

EDUCATION

POSTECH, Pohang, Republic of Korea

- M.S. in Graduate School of AI

Feb 2020 – Present

- Interest: Contrastive Learning, Generative Adversarial Networks
- GPA: 4.12/4.30

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

Computer Vision Laboratory, Pohang, Republic of Korea

- Graduate Student

Feb 2020 – Present

- Adviser: Professor Jaesik Park

Korea Aerospace Research Institute, Deajeon, Republic of Korea

- Research Participant

Jul 2019 – Aug 2019

- Developed a deep learning model to detect anomalous behavior of drones during actual swarm flight test.

Vision and Intelligent System Laboratory, Pusan National University

- Undergraduate Research Student

Aug 2017 – Jan 2020

- Adviser: Professor DongJoong Kang

PUBLICATIONS CONFERENCES

- [1] M. Kang, W. Shim, M. Cho, and J. Park, “Rebooting ACGAN: Auxiliary Classifier GANs with Stable Training”, In *International Conference on Neural Information Processing Systems (NeurIPS)*, 2021 (**Spotlight**).
- [2] M. Kang and J. Park, “ContraGAN: Contrastive Learning for Conditional Image Generation”, In *International Conference on Neural Information Processing Systems (NeurIPS)*, 2020.
- [3] M. Kang, H. Kim, and D. 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

- [1] H. Ahn, H. Choi, M. Kang, and S. Moon, “Learning-Based Anomaly Detection and Monitoring for Swarm Drone Flights”, *Applied Science*, 2019, 9, 5477.

OPEN SOURCE

PyTorch StudioGAN (★1800+)

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

TensorFlow ENAS (★100+)

- Modified the authors’ implementation of ENAS and applied it to welding defects classification.

AWARDS & SCHOLARSHIP

Representative Research Achievements, awarded to ContraGAN project, POSTECH, July 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

**ACADEMIC
SERVICES**

Conference Reviewer

- International Conference on Learning Representation (ICLR): 2022
- International Conference on Computer Vision (ICCV): 2021
- International Conference on Machine Vision Applications (MVA): 2021

PROFICIENCIES General Skill

- Language: Korean (Native), English (Conversational)
- Machine Learning Library: Tensorflow (Advanced), Pytorch (Advanced), Keras (Intermediate)