JANGHO KIM

◇ jangho.kim@kookmin.ac.kr ◇ Google Scholar ◇ GitHub

RESEARCH INTEREST

Machine Learning, Computer Vision, Pattern Recognition and Deep Learning.

EDUCATION

Seoul National University, Korea *Sep. 2017 - Feb. 2022*
Ph.D., Program in Intelligent Systems
Department of Transdisciplinary Studies, (GPA:4.11/4.3)

- Adviser: Prof. Nojun Kwak
- Machine Intelligence Pattern Analysis Lab

Pohang University of Science and Technology (POSTECH), Korea *Mar. 2015 - Feb. 2017*
MS., Computer Science and Engineering, (GPA:3.89/4.3)

- Adviser: Prof. Daijin Kim
- Intelligent Media Lab

Dongguk University, Korea *Mar. 2009 - Feb. 2015*
BS., Information and Communication Engineering, Cum laude (GPA:4.18/4.5)
(Republic of Korea Air Force (ROKAF) : *Sep. 2010 - Sep. 2012*)

PUBLICATIONS

< ***International Conferences and workshops*** >

1. Byeonggeun Kim, Seunghan Yang, **Jangho Kim**, Hyunsin Park, Juntae Lee, Simyung Chang, "Domain Generalization with Relaxed Instance Frequency-wise Normalization for Multi-device Acoustic Scene Classification", The 23nd Annual Conference of the International Speech Communication Association (***InterSpeech*** 2022), Incheon, korea.
2. **Jangho Kim***, Jun-Tae Lee*, Simyung Chang, Nojun Kwak (* equal contribution), "Variational On-the-Fly Personalization", The Thirty-ninth International Conference on Machine Learning ***ICML*** 2022), July 2022, (accepted)
3. KiYoon Yoo, **Jangho Kim**, Jiho Jang, Nojun Kwak, "Detection of Word Adversarial Examples in Text Classification: Benchmark and Baseline via Robust Density Estimation", ***Findings of ACL*** 2022.
4. Jeesoo Kim*, **Jangho Kim***, Jaeyoung Yoo, Daesik Kim, Nojun Kwak (* equal contribution), "Vehicle Image Generation Going Well With the Surroundings", 28th International Conference on Neural Information Processing (***ICONIP*** 2021), Dec. 2021.
5. Byeonggeun Kim, Seunghan Yang, **Jangho Kim**, Simyung Chang, "Domain Generalization of Efficient Acoustic Scene Classification using Residual Normalization", IEEE AASP Challenge on Detection and Classification of Acoustic Scenes and Events (***DCASE***) Workshop, Nov. 2021.
6. **Jangho Kim**, Simyung Chang, Nojun Kwak, "PQK: Model Compression via Pruning, Quantization, and Knowledge Distillation", The 22nd Annual Conference of the International Speech Communication Association (***InterSpeech*** 2021), Aug 2021, Brno, Czech Republic.

7. **Jangho Kim**, Simyung Chang, Sungrack Yun, Nojun Kwak, "Prototype-based Personalized Pruning", 2021 IEEE International Conference on Acoustics, Speech and Signal Processing (***ICASSP*** 2021), June. 2021, online.
8. **Jangho Kim**, KiYoon Yoo, Nojun Kwak, "Position-based Scaled Gradient for Model Quantization and Sparse Training", Thirty-fourth Conference on Neural Information Processing Systems (***NeurIPS*** 2020), Dec. 2020, online.
9. **Jangho Kim**, Minsung Hyun, Inseop Chung, Nojun Kwak , "Feature Fusion for Online Mutual Knowledge Distillation", 25th International Conference on Pattern Recognition (***ICPR*** 2020), Milan, Italy, Jan. 2021.
10. Inseop Chung, SeongUk Park, **Jangho Kim**, Nojun Kwak, "Feature-map-level Online Adversarial Knowledge Distillation", Thirty-seventh International Conference on Machine Learning (***ICML*** 2020), July 2020, Online.
11. **Jangho Kim***, Jeesoo Kim*, Nojun Kwak (* equal contribution), "StackNet: Stacking Parameters for Continual learning", CVPR 2020 Workshop on Continual Learning in Computer Vision, June 2020, Seattle WA (Online).
12. **Jangho Kim**, SeoungUK Park, Nojun Kwak, "Paraphrasing Complex Network: Network Compression via Factor Transfer", Thirty-second Conference on Neural Information Processing Systems (***NeurIPS*** 2018), Montreal, Canada, Dec. 2018.
13. **Jangho Kim**, Yong-Joong Kim, Yonghyun Kim, Daijin Kim, "Detecting Korean characters in natural scenes by alphabet detection and agglomerative character construction", IEEE International Conference on Systems, Man, and Cybernetics 2016 (***SMC*** 2016).

< ***Open Archive and Tech reports*** >

1. Byeonggeun Kim, Seunghan Yang, **Jangho Kim**, Simyung Chang, "QTI Submission to DCASE 2021: Residual Normalization for Device-Imbalanced Acoustic Scene Classification with Efficient Design", IEEE AASP Challenge on Detection and Classification of Acoustic Scenes and Events (DCASE), Jul. 2021.
2. **Jangho Kim***, Yash Bhalgat*, Jinwon Lee, Chirag Patel, Nojun Kwak (* equal contribution), "QKD: Quantization-aware Knowledge Distillation", arXiv, Nov. 2019.

PATENT

1. Personalized neural network pruning, US Patent App. 17/506,646
   Simyung Chang, **KIM Jangho**, PARK Hyunsin, LEE Juntae, Jaewon Choi, Kyu Woong Hwang

WORK EXPERIENCE

Kookmin University, Seoul
School of Artificial intelligence, College of Computer science
Assistant professor *Sep. 2022 - Current*

NAVER WEBTOON AI Research Lab, Pangyo
Research scientist

- Machine Learning *Jan. 2022 - Aug. 2022*

Qualcomm AI Research, Seoul
Research intern

- Machine Learning *Jul. 2020 - Jul. 2021*

Qualcomm AI Research, San Diego, CA
Research intern

- Model Quantization *Jul. 2019 - Oct. 2019*
  -Attending the MicroNet Challenge organised by a collaboration of DeepMind, GoogleAI, facebookAI and OpenAI

TEACHING EXPERIENCE

Kookmin University, Seoul
Instructor

- Computer Vision *Fall 2022*
- Machine Learning *Fall 2022*
- Self-Driving Car *Fall 2022*

Pohang University of Science and Technology (POSTECH), Korea
Teaching Assistant

- CSED514 pattern recognition *Spring 2016*

AWARDS AND HONORS

- Yulchon AI Scholarship (AI Star) *2021*
- 1st Rank on Task-1A, Detection and Classification of Acoustic Scenes and Events (DCASE) *2021*
- Graduate sponsorship, Samsung Advanced Institute of Technology (SAIT) *2020 - 2021*
- 3rd Rank on ImageNet Classification, MicroNet Challenge Hosted at NeurIPS 2019 *2019*
- Honor Student Award, ROKAF Technical School *2010*
- Merit-Based Scholarship, Dongguk University *2010 - 2014*

TALKS

- Invited Talk, Seoul St. Mary's Hospital College of Medicine *2021*
  - "Introduction to Deep Learning"
- Doctoral Colloquium, Korean Conference on Computer Vision (KCCV) *2021*
  - "Toward On-device Deep Learning"
- Tech Talk, NAVER Corp *2018*
  - "Model compression with Factor transfer"

ACADEMIC SERVICE

IEEE Transactions on Cybernetics, NeurIPS (2021-2022), ICLR (2022), AAAI (2022), ICML (2022)
Reviewers

PROJECTS

• **Intelligent System for Outdoor Security Robot**
funded by Ministry of Science and ICT of Korea *Oct. 2019 - Jul. 2020*
- Object detection and continual learning

• **Development of health information estimation algorithm using bio-signal and machine learning**

funded by Samsung IM (Mobile Communication Business) *Jan. 2019 - Jul. 2019*
- Health care with Deep learning.

• **Deep learning model compression using knowledge transfer**
funded by Samsung Advanced Institute of Technology (SAIT) *Jul. 2018 - Jul. 2019*
- Model compression, Ensemble model.

• **Development of transfer learning technology for improving traffic object detection performance**
funded by Ministry of Science and ICT of Korea *May. 2018 - Nov. 2018*
- Knowledge transfer.

• **Development of Real-time Image Recognition Defense Big Data Platform ("D-Net")**
funded by Agency for Defense Development *Jul. 2017 - Nov. 2018*
- Deep Model compression.

• **Development of Danger/Abnormal Situation Recognition and Prediction Technology for Intelligent systems**
funded by the Ministry of Science and ICT of Korea *Jan. 2016 - Dec. 2016*
- Car detection, license plate, text detection, and text recognition.

• **KT-POSTECH Open R&D Development of Object Analysis Technology for Media Intelligence**
funded by Korea Telecom (KT) *Jan. 2016 - Dec. 2016*
- Abandoned and Removed Object Detection and English Text Detection methods.

• **Development of Image Analysis Technology for General Product Recognition System**
funded by Samsung DMC (R&D center) *Dec. 2015 - Dec. 2016*
- Object Recognition method using deep convolutional neural networks to classify products and logos.

• **Development of wearable display device technology to display information on efficient excavator work**
funded by Doosan Infracore *Feb. 2015 - Nov. 2015*
- Google glass application.