Nayeong Kim

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

Education

POSTECH Pohang, Republic of Korea
Ph.D. in Computer Science and Engineering (Unified master's and doctor's course) *Sep. 2017 - Dec.2024 (expected)*

- Supervised by Prof. Suha Kwak in the Computer Vision Lab.
- Research Interest: Improving Model Robustness to Spurious Correlations

POSTECH Pohang, Republic of Korea
B.S. in Computer Science and Engineering *Mar. 2013 - Aug. 2017*

Publication

[1] **Nayeong Kim**, Juwon Kang, Sungsoo Ahn, Jungseul Ok, Suha Kwak. "Improving Group Robustness to Multiple Spurious Corelations by Multi-Objective Optimization", International Conference on Machine Learning (**ICML**), 2024.

[2] Nam Hyeon-Woo, Moon Ye-Bin, Wonseok Choi, **Nayeong Kim**, Suha Kwak, Tae-Hyun Oh. "Exploiting Synthetic Data for Data Imbalance Problems: Baselines from a Data Perspective", **ICCV workshop** on MMFM: What is Next in Multimodal Foundation Models?, 2023.

[3] **Nayeong Kim**, Juwon Kang, Sungsoo Ahn, Jungseul Ok, Suha Kwak. "Removing Multiple Biases through the Lens of Multi-task Learning", **ICML workshop** on Spurious Correlations, Invariance, and Stability (SCIS), 2023.

[4] Juwon Kang, **Nayeong Kim**, Donghyeon Kwon, Jungseul Ok, Suha Kwak. "Leveraging Proxy of Training Data for Test-Time Adaptation", International Conference on Machine Learning (**ICML**), 2023.

[5] **Nayeong Kim**, Sehyun Hwang, Sungsoo Ahn, Jaesik Park, Suha Kwak, "Learning Debiased Classifier with Biased Committee", Conference on Neural Information Processing Systems (**NeurIPS**), 2022.

[6] **Nayeong Kim**, Suha Kwak. "Robust Crowd Counting via Image Enhancement and Dynamic Feature Selection", British Machine Vision Conference (**BMVC**), 2021.

Awards

Qualcomm Innovation Fellowship Winner , Qualcomm Korea Corp., 2023, "Leveraging Proxy of Training Data for Test-Time Adaptation"

Samsung Strategy and Innovation Paper Award, 2023, "Leveraging Proxy of Training Data for Test-Time Adaptation"

BK21 Best Paper Award from POSTECH CSE, 2023, "Learning Debiased Classifier with Biased Committee"

Reviewing services

Conference on Neural Information Processing Systems (NeurIPS)	2023, 2024
European Conference on Computer Vision (ECCV)	2024
Asian Conference on Computer Vision (ACCV)	2024
Conference on Computer Vision and Pattern Recognition (CVPR)	2024
International Conference on Learning Representations (ICLR)	2024
AAAI Conference on Artificial Intelligence (AAAI)	2024
Winter Conference on Applications of Computer Vision (WACV)	2024
International Conference on Computer Vision (ICCV)	2023
Tiny Papers at International Conference on Learning Representations (ICLR)	2023, 2024
International Conference on Machine Learning (ICML)	2022

Talks

"Learning Debiased Classifier with Biased Committee", Korean Artificial Intelligence Association Fall conference, NAVER and KAIA, Nov. 2022

Work Experience

Visiting Researcher at Tübingen AI Center (Host: Prof. Seong Joon Oh)	Mar. 2024 - May. 2024
Research Intern at Samsung Electronics	Jan. 2018 - Feb. 2018
Research Intern at Exem	Mar 2017 - Sep. 2017
Undergraduate Intern at POSTECH Machine Learning Group	Mar. 2016 - Aug. 2017

Teaching Experience

Teaching Assistant, DeepLearning, POSTECH	Mar. 2020 - Jun. 2020
Teaching Assistant, DeepLearning:NUGU-based AI Tech&Serv., POSTECH	Sep. 2018 - Dec. 2018
Teaching Assistant, Machine Learning Course, SK Hynix	Aug. 2018 - May. 2019
Teaching Assistant, Deep Learning Course, POSCO Group	May. 2018 - Jul. 2019
Teaching Assistant, Introduction to Machine Learning, POSTECH	Mar. 2018 - Jun. 2018
Teaching Assistant, Machine Learning Course, Samsung	Feb. 2018 - Mar. 2019
Teaching Assistant, AI Job Training Course, POSTECH Institute of AI	Dec. 2017 - Apr. 2019

Collaboration Projects

Electronics and Telecommunications Research Institute (ETRI) May. 2020 – 2024

- Adaptive AI for Robots. Developed neural networks for crowd recognition in single image.

POSCO group Sep. 2018 – Sep. 2019

- Anomaly detection for information leakage according to external intrusion attack using deep neural networks

Samsung Electronics Jan. 2018 – Jul. 2018

- Developing abnormal signal detection algorithm for semiconductor process equipment using recurrent neural network

Programming Skills

Pytorch, Python, Git, Scikit-learn, tensorflow, C, C++, Linux

Selected Coursework

Computer Science Automata and Formal Languages, Applied Stochastic Processes, Time-Series Analysis, Probability & Statistics for Engineering, Machine Learning, Probabilistic Graphical Models, Computer Vision, 3D Vision, Vision and Language, Big Data, Information Retrieval, Linguistic Basis for Natural Language Process.