WONJAE KIM

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EDUCATION

Seoul National University, M.S. South Korea
Department of Computer Science and Engineering, Advisor: Jinwook Seo Feb. 2018
Thesis: Understanding Visualization Idioms Through Deep Visualization

Seoul National University, B.S. South Korea
Department of Computer Science and Engineering Feb. 2016

INDUSTRY EXPERIENCE

Naver Cloud South Korea
Research Scientist @ Naver AI Lab Jan. 2023 - present

Naver South Korea
Research Scientist @ Naver AI Lab Apr. 2021 - Dec. 2022

Kakao South Korea
Research Scientist @ Multimedia Processing Team Feb. 2018 - Apr. 2021

Naver LABS South Korea
Research Intern @ Intelligence Team, Advisor: Hyeonseob Nam Jun. 2017 - Sep. 2017

PUBLICATIONS

PEER-REVIEWED PAPERS

10. Kyuyong Shin, Hanock Kwak, **Wonjae Kim,** Jisu Jeong, Seungjae Jung, Kyung-Min Kim, Jung-Woo Ha, Sang-Woo Lee. *"Pivotal Role of Language Modeling in Recommender Systems: Enriching Task-specific and Task-agnostic Representation Learning"*. 60th Annual Meeting of the Association for Computational Linguistics (**ACL 2023**, to appear)

9. Namuk Park, **Wonjae Kim**, Byeongho Heo, Taekyung Kim, Sangdoo Yun. *"What Do Self-Supervised Vision Transformers Learn?"*. 11th International Conference on Learning Representations (**ICLR 2023**)

8. Jong Hak Moon, **Wonjae Kim**, Edward Choi. *"Correlation between Alignment-Uniformity and Performance of Dense Contrastive Representations"*. 33rd British Machine Vision Conference (**BMVC 2022**)

7. Sanghyuk Chun, **Wonjae Kim**, Song Park, Minsuk Chang, Seong Joon Oh. *"ECCV Caption: Correcting False Negatives by Collecting Machine-and-Human-verified Image-Caption Associations for MS-COCO"*. 17th European Conference on Computer Vision (**ECCV 2022**)

6. Hee-Seung Moon, Seungwon Do, **Wonjae Kim**, Jiwon Seo, Minsuk Chang, Byungjoo Lee. *"Speeding up Inference with User Simulators through Policy Modulation"*. 40th Conference on Human Factors in Computing Systems (**CHI 2022**)

5. Yoonho Lee, **Wonjae Kim**, Wonpyo Park, Seungjin Choi. *"Discrete Infomax Codes for Supervised Representation Learning"*. Entropy special issue "Theory and Applications of Information Processing Algorithms", 2022

4. Hwanjun Song, Deqing Sun, Sanghyuk Chun, Varun Jampani, Dongyoon Han, Byeongho Heo, **Wonjae Kim**, Ming-Hsuan Yang. *"ViDT: An Efficient and Effective Fully Transformer-based Object Detector"*. 10th International Conference on Learning Representations (**ICLR 2022**)

3. **Wonjae Kim***, Bokyung Son*, Ildoo Kim. *"ViLT: Vision-and-Language Transformer Without Convolution or Region Supervision"*. 38th International Conference on Machine Learnings (**ICML 2021, Long Presentation**)

2. **Wonjae Kim**, Yoonho Lee. *"Learning Dynamics of Attention: Human Prior for Interpretable Machine Reasoning"*. 32nd Conference on Neural Information Processing Systems (**NeurIPS 2019**)

1. Daekyoung Jung, **Wonjae Kim**, Hyunjoo Song, Jeong-in Hwang, Bongshin Lee, Bohyoung Kim, Jinwook Seo. *"Chartsense: Interactive data extraction from chart images"*. 35th Conference on Human Factors in Computing Systems (**CHI 2017**)

PREPRINTS AND WORKSHOP PAPERS

8. Geonmo Gu*, Sanghyuk Chun*, **Wonjae Kim**, HeeJae Jun, Yoohoon Kang, Sangdoo Yun. *"CompoDiff: Versatile Composed Image Retrieval With Latent Diffusion"*.

7. Song Park*, Sanghyuk Chun*, Byeongho Heo, **Wonjae Kim**, Sangdoo Yun. *"SeiT: Storage-Efficient Vision Training with Tokens Using 1% of Pixel Storage"*.

6. Hyungyung Lee, Da Young Lee, **Wonjae Kim**, Jin-Hwa Kim, Tackeun Kim, Jihang Kim, Leonard Sunwoo, Edward Choi. *"UniXGen: A Unified Vision-Language Model for Multi-View Chest X-ray Generation and Report Generation"*.

5. Byungsoo Ko, Han-Gyu Kim, Byeongho Heo, Sangdoo Yun, Sanghyuk Chun, Geonmo Gu, **Wonjae Kim**. *"Group Generalized Mean Pooling for Vision Transformer"*.

4. Hwanjun Song, Deqing Sun, Sanghyuk Chun, Varun Jampani, Dongyoon Han, Byeongho Heo, **Wonjae Kim**, Ming-Hsuan Yang. *"An Extendable, Efficient and Effective Transformer-based Object Detector"*.

3. Jiyoung Lee, **Wonjae Kim**, Daehoon Gwak, Edward Choi. *"Conditional Generation of Periodic Signals with Fourier-Based Decoder"*. 34th Conference on Neural Information Processing Systems (**NeurIPS 2021**, Workshop on Deep Generative Models and Downstream Applications Poster Presentation)

2. Wonpyo Park*, **Wonjae Kim***, Kihyun You, Minsu Cho. *"Diversified Mutual Learning for Deep Metric Learning"*. 15th European Conference on Computer Vision (**ECCV 2020**, Task-CV Workshop)

1. Jaemin Jo, **Wonjae Kim**, Seunghoon Yoo, Bohyoung Kim, Jinwook Seo. *"Swifttuna: Responsive and incremental visual exploration of large-scale multidimensional data"*. 10th IEEE Pacific Visualization Symposium (**PacificVis 2017**)

ACADEMIC SERVICE

Reviewer, International Conference on Computer Vision (ICCV), 4 papers	2023
Reviewer, International Conference on Machine Learning (ICML), 17 papers	2020, 2021, 2022, 2023
Reviewer, International Conference on Learning Representations (ICLR), 10 papers	2021, 2022, 2023
Reviewer, Transactions on Machine Learning Research (TMLR), 1 paper	2022
Reviewer, Conference on Neural Information Processing Systems (NeurIPS), 15 papers	2020, 2021, 2022
Reviewer, Computer Vision and Pattern Recognition Conference (CVPR), 6 papers	2022
Reviewer, Symposium on User Interface Software and Technology (UIST), 1 paper	2022
Reviewer, Conference on Human Factors in Computing Systems (CHI), 1 paper	2021
Student Volunteer, PacificVis	2017
Teaching Assistant, Discrete Mathematics, Seoul National University	2017
Teaching Assistant, D3.js and Tableau, Seoul National University Big Camp	2016, 2017
Teaching Assistant, Computer Programming, Seoul National University	2016
Teaching Assistant, D3.js and Tableau, Seoul National University Big Data Academy	2016

SKILLS

Computational Graphs (`pytorch`, `jax`, `tensorflow`, ...)
Large-scale multi-node multi-process training (over 256 A100s with `pytorch` or TPUs with `jax`)
Service deployment and management (`docker`, `zeromq`, `elk stack`, ...)
Front-end development (`react`, `d3.js`, ...)
Back-end development (`flask`, `fastapi`, `celery`, ...)
Speaks Korean, English, and Japanese