

HYUNG-KWON KO

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About

Hyung-Kwon Ko is a researcher at KAIST Interaction Lab. His main research areas include Human-Computer Interaction, Human-Centered AI, and Information Visualization. He designs, prototypes, and evaluates interactive systems to innovate people's working paradigms based on a thorough investigation of their need. Experienced in AI models from both academia and industry, he is currently interested in how foundation models (e.g., DALL-E) could help people in visual art domains perform creative works.

Education

- 2019 – 2021 **Seoul National University**, Seoul, Korea
Master of Science in Computer Science and Engineering (Advisor: Dr. Jinwook Seo)
- 2014 – 2019 **Hanyang University**, Seoul, Korea
Bachelor of Science in Mathematics, Minor in Industrial Engineering

Publications

CONFERENCE & JOURNAL PAPERS

- [b6] Ko, H.-K., Park, G., Jeon, H., Jo, J., Kim, J., Seo, J. (2023).
Large-scale Text-to-Image Generation Models for Visual Artists' Creative Works.
Proceedings of the International Conference on Intelligent User Interfaces (IUI '23), 1-15.
- [a5] Ko, H.-K.*, An, S.*, Park, G., Kim, S.K., Kim, D., Kim, B., Jo, J., Seo, J. (2022).
We-toon: A Communication Support System between Writers and Artists in Collaborative Webtoon Sketch Revision.
Proceedings of the ACM Symposium on User Interface Software and Technology (UIST '22), 1-14.
- [a4] Jeon, H.*, Ko, H.-K.*, Lee, S., Jo, J., Seo, J. (2022).
Uniform Manifold Approximation with Two-phase Optimization.
Proceedings of IEEE Conference on Visualization and Visual Analytics (VIS '22), 80-84.
- [a3] Jeon, H., Ko, H.-K., Jo, J., Kim, Y., Seo, J. (2021).
Measuring and Explaining the Inter-Cluster Reliability of Multidimensional Projections.
IEEE Transactions on Visualization and Computer Graphics (In Proceedings of VIS '21), 28(1):551-561.
- [a2] Jung, S., Choe, K., Park, S., Ko, H.-K., Seo, J. (2021).
Mixed-Initiative Approach to Extract Data from Pictures of Medical Invoice.
IEEE Pacific Visualization Symposium (PacificVis '21), 111-115.
- [a1] Ko, H.-K., Jo, J., Seo, J. (2020).
Progressive Uniform Manifold Approximation and Projection.
EG/VGTC Conference on Visualization (EuroVis '20), 133-137.

PREPRINTS & PUBLICATIONS IN PROGRESS

- [b5] Ko, H.-K., Son, K., Jin, H., Choi, Y., Kim, J. (2023).
Crowdiffusion: Text Prompting of Large-scale Text-to-Image Generation Models by Example.
(In Progress)
- [b4] Shin, H., Lee, Y., Ko, H.-K., Kim, J. (2023).
Enabling Prototyping of AI-infused UIs with Task-level Specifications.
(In Progress)

- [b3] Yun, S., Jeon, H., Ko, H.-K., Seo, J. (2023).
Scalable Readability Evaluation of Graph Layouts on Distributed Environments.
(In Progress)
- [b2] Choi, J.*, Song, J.*, Jeon, H., Kim, Y., Ko, H.-K., Seo, J. (2022).
How Disentanglement Affects Users' Interpretation, Control, and Sentiment when Using Generative Models.
(Under Review)
- [b1] Jeon, H., Aupetit, M., Lee, S., Ko, H.-K., Kim, Y., Seo, J. (2022).
Distortion-Aware Brushing for Interactive Cluster Analysis in Multidimensional Projections.
Arxiv Preprint (Under Review)

* denotes equal contributions.

Experience

06/2022 – Present	KAIST Interaction Lab (KIXLAB) , Daejeon, Korea <i>Researcher (Advisor: Dr. Juho Kim)</i>
10/2021 – 06/2022	Naver Webtoon Corp. , Seongnam, Korea <i>AI Research Scientist, Webtoon AI</i>
04/2021 – 09/2021	Naver Webtoon Corp. , Seongnam, Korea <i>AI Research Intern, Webtoon AI</i>
03/2019 – 08/2019	Human-Computer Interaction Lab , Seoul, Korea <i>Research Intern (Advisor: Dr. Jinwook Seo)</i>
01/2019 – 02/2019	LG Electronics Inc. , Seoul, Korea <i>Research Intern, CTO Division</i>
06/2018 – 08/2018	Wesleyquest Inc. , Seoul, Korea <i>Research Associate</i>

Honors and Awards

2022	Gary Marsden Travel Awards (Full travel support for UIST '22: \$2,800 USD), <i>ACM SIGCHI</i>
2018	Big Data Contest (3 rd Place, Prize Money: \$900 USD), <i>NIA and Korea Big Data Forum</i>
2018	AI Novel Writing Competition (2 nd Place, Prize Money: \$18,000 USD), <i>KT Corporation and KOCCA</i>
2017	Academic Research Competition (2 nd Place, Prize Money: \$180 USD), <i>Hanyang University</i>
2014 – 2018	Merit-based Scholarship (6 semesters), <i>Hanyang University</i>

Invited Talks and Seminars

1. *Large-scale Text-to-Image Generation Models for Visual Artists' Creative Works*
Shandong University, Qingdao, China. January 2023.

Academic Services

PAPER	ACM CHI ('23)
REVIEWING	IEEE PacificVis ('20, '21)

STUDENT
VOLUNTEERING

ACM UIST ('22)

Press Coverage

Nov 2022 [The Road to Becoming a Published Researcher](#), *IEEE Computer Society*
Aug 2018 [Writing Novels on Its Own... AI Contests Human Creativity](#), *KBS (Korean)*