

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., 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 Award (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)*