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

[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), 14 pages.

[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), 5 pages.

[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

[b4] Shin, H., Lee, Y., Ko, H.-K., Kim, J. (2022).
Enabling Prototyping of AI-infused UIs with Task-level Specifications.
(In Progress)

[b3] Ko, H.-K., Park, G., Jeon, H., Jo, J., Kim, J., Seo, J. (2022).
Large-scale Text-to-Image Generation Models for Visual Artists' Creative Works.
Arxiv Preprint (Under Review)

[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
Researcher (Advisor: Dr. Juho Kim)

10/2021-06/2022 **Naver Webtoon Corp.**, Seongnam, Korea
AI Research Scientist, Webtoon AI

04/2021-10/2021 **Naver Webtoon Corp.**, Seongnam, Korea
AI Research Intern, Webtoon AI

03/2019-08/2019 **Human-Computer Interaction Lab**, Seoul, Korea
Research Intern (Advisor: Dr. Jinwook Seo)

01/2019-02/2019 **LG Electronics**, Seoul, Korea
Research Intern, CTO Division

06/2018-08/2018 **Wesleyquest Inc.**, Seoul, Korea
Research Associate

Honors and Awards

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

Academic Services

Paper Reviewing ACM CHI ('22)
IEEE PacificVis ('20, '21)

Student Volunteering ACM UIST ('22)