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 and develops interactive systems using AI to innovate people's working paradigm, in turn, changing their lives more intelligently and conveniently. Recently, he is 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: 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 Visualization Conference (VIS '22), 5 pages.

[a3] Jeon, H., Ko, H.-K., Jo, J., Kim, Y., Seo, J. (2022).
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 (PacificVis '21), 111-115.

[a1] Ko, H.-K., Jo, J., Seo, J. (2021).
Progressive Uniform Manifold Approximation and Projection.
EG/VGTC Conference on Visualization (EuroVis '21), 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)

Last updated: Oct 20, 2022

[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).
Large-scale Text-to-Image Generation Models for Visual Artists' Creative Works.
Arxiv Preprint (Under Review)

(* denotes equal contributions)

Experience

06/2022-Present **KAIST Interaction Lab (KIXLAB)**, Daejeon, Korea
Researcher, working with 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, working with 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), *ACM SIGCHI*
2018 Big Data Forum President Award (3rd Place), *National Information Society Agency (NIA) and Korea Big Data Forum*
2018 AI Novel Writing Competition (2nd Place, Prize Money: 20M KRW), *KT Corporation and Korea Creative Content Agency (KOCCA)*
2017 Academic Research Competition (2nd Place), *Hanyang University*
2014-2019 Merit-based Scholarship (6 semesters), *Hanyang University*

Academic Services

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

Student Volunteering ACM UIST ('22)