

HYUNG-KWON KO

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About

Hyung-Kwon Ko is a researcher at KAIST Interaction Lab, focusing on Human-Computer Interaction, Human-Centered AI, and Information Visualization. He develops intelligent systems to solve complex problems of communication between humans or when interacting with computers by adopting sophisticated algorithms or novel interaction techniques. Based on expertise in AI models from both academia and industry, he aspires to pioneer pragmatic solutions and actively contribute to innovate our society.

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

- [a7] Jeon, H., Cho, A., Jang, J., Lee, S., Hyun, J., Ko, H.-K., Jo, J., Seo, J. (2023).
Zadu: A python library for evaluating the reliability of dimensionality reduction embeddings.
IEEE Visualization Conference (VIS '23), 1-5.
- [a6] 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.
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.
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.
IEEE Visualization Conference (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.

WORKSHOP PAPERS

- [b2] Ko, H.-K., Jeon, H., Park, G., Kim, D. H., Kim, N. W., Kim, J., Seo, J. (2023).
A Vega-Lite Dataset and Natural Language Generation Pipeline with Large Language Models.
VIS 2023 NLVIZ Workshop: Exploring Research Opportunities for NL, Text, and Data Visualization
- [b1] Ko, H.-K., Son, K., Jin, H., Choi, Y., Chen, X. (2023).
Moderating Customer Inquiries and Responses to Alleviate Stress and Reduce Emotional Dissonance of Customer Service Representatives.
CHI 2023 Workshop on Generative AI and HCI

PREPRINTS & PUBLICATIONS IN PROGRESS

- [c2] Ko, H.-K., Jeon, H., Park, G., Kim, D. H., Kim, N. W., Kim, J., Seo, J. (2023).
Natural Language Dataset Generation Framework for Visualizations Powered by Large Language Models.
Arxiv Preprint (Under Review)
- [c1] 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

* 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 – 09/2021 **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 Inc.**, Seoul, Korea
Research Intern, CTO Division
- 06/2018 – 08/2018 **Wesleyquest Inc.**, Seoul, Korea
Research Associate

Honors and Awards

- 2023 Fulbright Scholarship Nominee, (Ph.D. program, \$90,000 USD), *US & ROK Government*
- 2023 ACM Travel Grants (Travel support for IUI '23, \$980 USD), *ACM SIGCHI*
- 2022 Gary Marsden Travel Awards (Travel support for UIST '22, \$2,800 USD), *ACM SIGCHI*
- 2018 Big Data Contest (3rd Place, \$900 USD), *NIA and Korea Big Data Forum*
- 2018 AI Novel Writing Competition (2nd Place, \$18,000 USD), *KT Corporation and KOCCA*
- 2014 – 2018 Merit-based Scholarship (6 semesters), *Hanyang University*
- 2017 Academic Research Competition (2nd Place, \$180 USD), *Hanyang University*

Invited Talks and Seminars

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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), CHI LBW ('23), C&C ('23)
REVIEWING	IEEE PacificVis ('20, '21)
STUDENT	ACM UIST ('22), IUI ('23)
VOLUNTEERING	

Press Coverage

Nov 2022	The Road to Becoming a Published Researcher , <i>IEEE Computer Society</i>
Aug 2018	Writing Novels on Its Own... AI Contests Human Creativity , <i>KBS (Korean)</i>