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 dimensionalit 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, (Graduate student program, $90,000 USD), *KAEC*
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

Last updated: Sep 20, 2023

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

Academic Services

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

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)*

Last updated: Sep 20, 2023