

# HYUNG-KWON KO

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## About

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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

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- 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

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### 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. (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 Symposium (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)*

- [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

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06/2022-Present	<b>KAIST Interaction Lab (KIXLAB)</b> , Daejeon, Korea <i>Researcher (Advisor: Dr. Juho Kim)</i>
10/2021-06/2022	<b>Naver Webtoon Corp.</b> , Seongnam, Korea <i>AI Research Scientist, Webtoon AI</i>
04/2021-10/2021	<b>Naver Webtoon Corp.</b> , Seongnam, Korea <i>AI Research Intern, Webtoon AI</i>
03/2019-08/2019	<b>Human-Computer Interaction Lab</b> , Seoul, Korea <i>Research Intern (Advisor: Dr. Jinwook Seo)</i>
01/2019-02/2019	<b>LG Electronics</b> , Seoul, Korea <i>Research Intern, CTO Division</i>
06/2018-08/2018	<b>Wesleyquest Inc.</b> , Seoul, Korea <i>Research Associate</i>

## Honors and Awards

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2022	Gary Marsden Travel Award (Full travel support for UIST '22), <i>ACM SIGCHI</i>
2018	Big Data Forum President Award (3 <sup>rd</sup> Place), <i>National Information Society Agency (NIA) and Korea Big Data Forum</i>
2018	AI Novel Writing Competition (2 <sup>nd</sup> Place, Prize Money: 20M KRW), <i>KT Corporation and Korea Creative Content Agency (KOCCA)</i>
2017	Academic Research Competition (2 <sup>nd</sup> Place), <i>Hanyang University</i>
2014-2018	Merit-based Scholarship (6 semesters), <i>Hanyang University</i>

## Academic Services

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PAPER	ACM CHI ('22)
REVIEWING	IEEE PacificVis ('20, '21)
STUDENT	ACM UIST ('22)
VOLUNTEERING	