Hyung-Kwon Ko

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Interests

- Human-Computer Interaction & Human-centered AI
- Generative Models & Latent Manipulation
- High-dimensional Data

Education

- **Seoul National University** — Seoul, Republic of Korea
  M.S. in Computer Science and Engineering (Advisor: Prof. Jinwook Seo) — *Sep 2019 - Aug 2021*

- **Hanyang University** — Seoul, Republic of Korea
  B.S. in Mathematics, Minor in Industrial Engineering — *Mar 2014 - Aug 2019*

Publications

- *Peer-reviewed publications*

  [3] Hyeon Jeon, **Hyung-Kwon Ko**, Jaemin Jo, Youngtaek Kim, and Jinwook Seo, "Measuring and Explaining the Inter-Cluster Reliability of Multidimensional Projections," *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, vol. 28, no. 1, pp. 551-561, Jan. 2022, doi: 10.1109/TVCG.2021.3114833.

  [2] Seokweon Jung, Kiroong Choe, Seokhyeon Park, **Hyung-Kwon Ko**, Youngtaek Kim, and Jinwook Seo, "Mixed-Initiative Approach to Extract Data from Pictures of Medical Invoice," *IEEE Pacific Visualization Symposium (PacificVis)*, pp. 111-115, 2021, doi: 10.1109/PacificVis52677.2021.00022.

  [1] **Hyung-Kwon Ko**, Jaemin Jo, and Jinwook Seo, "Progressive Uniform Manifold Approximation and Projection," *22nd Eurographics Conference on Visualization, EuroVis 2020-Short Papers. Eurographics Association*, pp. 133-137. 2020, doi: https://doi.org/10.2312/evs.20201061.

- *Preprints & Publications in progress*

  [4] **Hyung-Kwon Ko,** Gwanmo Park, Hyeon Jeon, Jaemin Jo, Jinwook Seo, "Understanding Artists' Perception, Expectation, and Concern for Large-scale Text-to-Image Generative Models," *(In Progress)*, 2022.

  [3] Hyeon Jeon*, **Hyung-Kwon Ko***, Soohyun Lee, Jaemin Jo, Jinwook Seo, "Uniform Manifold Approximation with Two-phase Optimization," *(Under Review)*, 2022.

  [2] **Hyung-Kwon Ko***, Subin An*, Gwanmo Park, Seung Kwon Kim, Daesik Kim, Bohyoung Kim, Jaemin Jo, Jinwook Seo, "We-toon: A Communication Support System between Writers and Artists in Collaborative Webtoon Sketch Revision," *(Under Review)*, 2022.

  [1] Hyeon Jeon, Michael Aupetit, Soohyun Lee, **Hyung-Kwon Ko**, Youngtaek Kim, Jinwook Seo, "Distortion-Aware Brushing for Interactive Cluster Analysis in Multidimensional Projections," *arXiv preprint arXiv:2201.06379 (Under Review)*, 2022.

Experience

- **KAIST Interaction Lab (KIXLAB)** Daejeon, Republic of Korea
  Researcher @ Lab of professor Juho Kim at KAIST *Jun 2022 - Present*

- **Naver Webtoon Corp.** Seongnam, Republic of Korea
  AI Research Scientist @ Webtoon AI *Oct 2021 - Jun 2022*
  AI Research Intern @ Webtoon AI *Apr 2021 - Aug 2021*

- **Human-computer Interaction Lab** Seoul, Republic of Korea
  Undergrad Intern @ Lab of professor Jinwook Seo at SNU *Mar 2019 - Aug 2019*

- **LG Electronics** Seoul, Republic of Korea
  Research Intern @ Service development team, Cloud center *Jan 2019 - Feb 2019*

- **Wesleyquest Inc.** Seoul, Republic of Korea
  Research Associate @ Strategic consulting firm *Jun 2018 - Aug 2018*

- **Probability and Statistical Modeling Lab** Seoul, Republic of Korea
  Undergrad Intern @ Lab of professor Suk-Joo Bae at Hanyang Univ. *Mar 2017 - Nov 2017*

Awards

- **3rd place in Big Contest**
  National Information Society Agency and Korea Bigdata Forum *Oct 2018*

- **2nd Place in Artificial Intelligence Novel Competition**
  KT and KOCCA *Aug 2018*

- **2nd Place in Academical team research**
  Natural Science college of Hanyang University *Nov 2017*

Programming Skills

- **Languages**: Python (PyTorch), C/C++, JavaScript (Svelte, Node, D3.js), R

- **Technologies & Tools**: Git, Vim, AWS EC2, LaTeX

Services & Volunteer Experience

- **External reviewer**
  IEEE PacificVis (paper) *2020-2021*

- **The Actors Theatre Workshop** New York, NY, USA
  Nonprofit organization, Intern *Mar 2016 - Aug 2016*

- **Republic of Korea Army** Gangwon, Republic of Korea
  11th Division, Administrative Clerk *Jun 2011 - Mar 2013*

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