

Kihwan Kim

Data Scientist · Front-end Developer · Human-Computer Interaction Researcher
Suji-gu, Yongin-si, Gyeonggi-do, Republic of Korea

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Education

UNIST (Ulsan National Institute of Science and Technology)

M.S. in Computer Science & Engineering

- Advisor: Prof. Sungahn Ko at [iVADER](#)
- Research interests: Data science · Recommender system · Human-computer interaction

Ulsan, S.Korea

Mar. 2018 - Feb. 2020

UNIST (Ulsan National Institute of Science and Technology)

B.S. in Technology Management

- Specialized in Management Information System
- Minored in Computer Science & Engineering

Ulsan, S.Korea

Mar. 2013 - Feb. 2018

Publications

- Kihwan Kim, Yeonjun Kim, Oh-Sang Kwon, Bum Chul Kwon, Sungahn Ko. (2019). "Should Presentation Strategies for Algorithmic Exploration Be Hidden from Users?" (Submitted)
- Juyoung Oh, Chunggi Lee, Kihwan Kim, Hwiyeon Kim, Oh-Sang Kwon, Eric Ragan, Bum Chul Kwon, Sungahn Ko. (2019). "An Empirical Study on Multiple Coordinated Views with Visualization Duplication." (Submitted)
- Cheonbok Park, Chunggi Lee, Hyojin Bahng, Yunwon Tae, Kihwan Kim, Seungmin Jin, Sungahn Ko, and Jaegul Choo. (2019). "Spatio-Temporal Graph Attention Networks for Traffic Forecasting." arXiv:1911.1318 [\[arXiv\]](#)
- Kihwan Kim, Sanghoon Kim, Chunggi Lee, Sungahn Ko. (2019). "Modeling Exploration/Exploitation Decisions through Mobile Sensing for Understanding Mechanisms of Addiction." In Proceedings of the 17th Annual International Conference on Mobile Systems, Applications, and Services (MobiSys'19). [\[ACM\]](#) [\[PDF\]](#) [\[Poster\]](#)
- Jaesung Lee, Kihwan Kim, Chunggi Lee, Sungahn Ko. (2017). "시각화 기반 딥러닝 분석 기술." Journal of the Korean Society for Noise and Vibration Engineering, 27(6), 20–24. [\[DBpia\]](#) [\[PDF\]](#).

Experience

TmaxData

Researcher

- Developing the front-end of Tmax AutoML platform with React.js.
- Implementing [AutoML algorithm](#) to with scikit-learn and XGBoost in Kuberflow environment.

Seongnam, S.Korea

Feb. 2020 - Present

Interactive Visual Analysis and Data Exploration Research Lab (Ph.D. Sungahn Ko)

Laboratory leader & graduate student

- Evaluated how to present algorithmic exploration by user-centric evaluation and eliciting feedback.
- Systematized how to model exploration/exploitation decisions through mobile sensing.

Ulsan, S.Korea

Mar. 2018 - Feb. 2020

Big Data Systems and Applications Lab (Ph.D. Jiwon Seo)

Undergraduate research intern

- Examined vector representations based on word embedding algorithms for road and social networks.

Ulsan, S.Korea

Feb. 2016 - Jun. 2017

Statistical Artificial Intelligence Lab (Ph.D. Jaesik Choi)

Undergraduate research intern

- Implemented the following paper: "[A Neural Algorithm of Artistic Style](#)" using TensorFlow. (★ 50+)

Ulsan, S.Korea

Dec. 2015 - Feb. 2016

Dark Horse (Start-up)

Data scientist

- Implemented a horse racing predictive model by stacking 16 classifiers.
- Received several awards in start-up predictive competitions. (Detail award records in Honors & Awards section.)

Seoul, S.Korea

Mar. 2015 - Aug. 2015

HeXA (Computer Study Club in UNIST) — [Homepage](#)

Member

- Studied together Python by [Fluent Python](#), and data science by participating in [Kaggle](#) competitions.

Ulsan, S.Korea

Mar. 2013 - Present

Skills

- **Data science** Keras · TensorFlow · Pandas · NumPy · scikit-learn · XGBoost · SciPy · Matplotlib · IPython & Jupyter · R
- **Back-end** Python3 · Flask · SQLite3 · MySQL · MongoDB
- **Front-end** React.js · D3.js · JQuery · HTML5 · CSS · SCSS
- **Others** Git & GitHub · LaTeX
- **Languages** Korean (Native) · English (Fluent—6 years in UNIST where all the classes are provided in english.)

Projects

Big data analysis and traffic congestion forecasting system based on artificial intelligence

- Implemented the traffic forecasting models: [Yaguang Li et al. 2018](#) and [Chunggi Lee et al. 2019](#).
- Remodeled according to Korean road speed data—[UTIC](#).

July. 2019 - Present

Interactive session-based movie recommender — [Tutorial](#)

- Developed a web-based movie recommender system for research purposes.

Jun. 2018

- Clarified how transparency of algorithmic exploration impacts user experience and behavior.

EduVis

Mar. 2018

- A visual analytics system for making sense of places, times, and events in history courses.
- Discovered patterns of system usage logs with visualization and sequential pattern mining.

NAVER-UNIST undergraduate poster award — 🏆 · [Poster](#) · [Competition notice](#)

Dec. 2017

- A research poster competition hosted by NAVER and UNIST ECE.
- Won a bronze award with ₩1,500,000 (approximately \$1400).

Analysis of user logs in a visual analytics system supports multiple coordinated views

Aug. 2017

- Discovered sequential pattern of user interaction logs with PrefixSpan algorithm.

Aktion — [Report](#)

Feb. 2017

- Developed a smartphone-assisted crop disease diagnosis service.
- Our CNN (Convolutional Neural Network) can classify 17 crop species and 46 diseases.

Structify — [Demo](#)

Aug. 2016

- Developed an interactive tool transform semi-structured data into structured data.
- Users can visually interact with a genetic algorithm to generate a more accurate regex.

Neural style — [Code](#)

Feb. 2016

- Implemented the following paper: "[A Neural Algorithm of Artistic Style](#)" using TensorFlow. (★ 50+)

Dark horse — 🏆

Mar. 2015 - Aug. 2015

- Implemented a model for predicting winners in horeserace using public data of Korea Racing Authority.
- Developed a Web App service recommends betting strategies using Shiny & R.

Honors & Awards

2017-Winter	NAVER-UNIST undergraduate poster award hosted by NAVER and UNIST ECE.	Bronze award
2016-Spring	Horse Data Start-up audition organized by Korea Racing Authority (한국마사회)	Final list
2015-Summer	TechUP Program Season 2 organized by FuturePlay	Final list
2015-Spring	HeXATHON organized by NAVER and UNIST	Third place

Teaching Experience

2019-Spring	Data Structures — Syllabus	Head Teaching Assistant, UNIST
2018-Fall	Introduction to AI Programming II — Syllabus	Teaching Assistant, UNIST
2018-Spring	Introduction to AI Programming I — Syllabus	Teaching Assistant, UNIST