

Heungseok Park

DATA SCIENTIST • VISUALIZATION ENGINEER/RESEARCHER

SeongNam-si, Rep. of KOREA

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“The purpose of visualization is insight, not pictures.”

Profile

Research/software engineer of Clova AI Research in NAVER. Lead in projects designing and developing interactive visualization systems for various domains. Currently working on as a data visualization researcher/engineer for a Cloud-based Machine Learning Platform service at Naver Corporation. Interested in the field of data analysis since undergraduate years, specifically in data visualization. Intrigued by the quote that “Never trust summary statistics alone, always visualize your data”.

Education

KAIST (Korea Advanced of Institute and Technology)

Daejeon, S.Korea

MASTER STUDENT IN GRADUATE SCHOOL OF CULTURE TECHNOLOGY

Mar. 2016 - Exp. Feb. 2018

- Research Assistant of Social Computing Lab
- Advisor: Wonjae Lee

Ajou University

Suwon, S.Korea

BACHELOR OF DIGITAL MEDIA IN COLLEGE OF INFORMATION AND TECHNOLOGY

Mar. 2010 - Feb. 2016

- Academic Scholarships for 7 semesters, *Cum laude*
- Advisor: Kyungwon Lee

University of Nevada, Las Vegas

Las Vegas, NV, U.S.

VISITING SCHOLAR IN HOWARD R. HUGHES COLLEGE OF ENGINEERING

Jan. 2015 - May. 2015

- Advisor: Si Jung Kim

Work Experience

Clova AI Research, NAVER

SeongNam, S.Korea

VISUALIZATION ENGINEER & FRONT-END WEB DEVELOPER

Feb. 2018 - Now

- Lead data visualization researcher/engineer for cloud-based machine learning platform.
- Main web designer/developer of main analytic features inside of the system
- System maintainer for over 1000 machine learning practitioners in NAVER and LINE Corporation.

3Secondz

Daejeon, S.Korea

VISUALIZATION ENGINEER & FRONT-END WEB DEVELOPER

May. 2017 - Jan. 2018

- Main developer of Car Racing Simulation part for Artificial Intelligence based Racing Coach Services.

Research & Publications

- **Heungseok Park**, Yoonsoo Nam, Ji-hoon Kim, and Jaegul Choo, “HyperTendril: Visual Analytics for User-Driven Hyperparameter Tuning of Deep Neural Networks”, *IEEE Transactions on Visualization and Computer Graphics, In Proc. IEEE VIS 2020 (VAST, acceptance rate: 24.8%), [paper], [website]*.
- **Heungseok Park**, Jinwoong Kim, Minkyu Kim, Ji-hoon Kim, Jaegul Choo, Jung-Woo Ha, and Nako Sung, “VisualHyperTuner: Visual Analytics for User-Driven Hyperparameter Tuning of Deep Neural Networks”, *In Proc. MLSys 2019, demonstration track [paper]*.
- Jinwoong Kim, Minkyu Kim, **Heungseok Park**, Ernar Kusdavletov, Dongjun Lee, Adrian Kim, Ji-Hoon Kim, Jung-Woo Ha, and Nako Sung, “CHOPT : Automated Hyperparameter Optimization Framework for Cloud-Based Machine Learning Platforms”, *arXiv [paper]*.
- Hanjoo Kim, Minkyu Kim, Dongjoo Seo, Jinwoong Kim, **Heungseok Park**, Soeun Park, Hyunwoo Jo, KyungHyun Kim, Youngil Yang, Youngkwan Kim, Nako Sung, and Jung-Woo Ha, “NSML: Meet the MLaaS platform with a real-world case study”, *arXiv [paper]*.
- **Heungseok Park** and Wonjae Lee, “What makes a Successful Course at MOOCs? The Effects of the Structural Positions in Review Networks on the Course’s Popularity and Satisfaction”, *Master thesis, [paper]*.
- **Heungseok Park**, Hongjun Lim, Wonjae Lee, and Kyungwon Lee, “NetSet: A Systematic integration of visualization for analyzing set intersections with network”, *In Proc. IEEE Pacific Visualization Symposium (PacificVis), Apr 2017 [paper] [video]*.
- Jee Jung Choi, Jungmin Kim, **Heungseok Park**, and Wonjae Lee, “Extracting Placeness from Social Media: an Ontology-Based System”, *In Proc. IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), Full paper, Aug 2017 [paper]*.
- **Heungseok Park**, Hongjun Lim, and Kyungwon Lee, “NetSet: Interactive Visualization for Analyzing Sets in Large Networks”, *IEEE VIS Conference, Visualization in Data Science (VDS) Symposium, Poster, Oct 2015 [poster]*.

Patent

International

- “Apparatus for Visualizing Analysis of Set Relationship in Complex Network and Method Therefor”, Kyungwon Lee, Hongjun Lim, and **Heungseok Park**, *International Patent Application* PCT/KR2016/011868, Oct 2016 [document].

Domestic

- “Apparatus and Method for Interactive Visualization for Analyzing Sets in Large Networks” Hongjun Lim, Kyungwon Lee, and **Heungseok Park**, *Korea Patent*, 10-1710606, Feb 2017 [document].
- “Apparatus and Method for Interactive Visualization in Analyzing Multidimensional data in Complex Networks”, **Heungseok Park**, *Korea Patent Pending*, 10-2016-0101233, Aug 2016 [document].

Services

Review **IEEE Conference on Visual Analytics Science and Technology (VAST)**,

2020

Honors & Awards

Mar. 2015 **Outstanding Research Award**, UNLV CSUN Academic Poster Conference

Las Vegas, NV, U.S.

Dec. 2014 **Global Exchange Scholarship**, 15th Global Scholarship of Mirae-Asset Park Hyeon Joo Foundation

Seoul, S.Korea

Projects

NSML: Naver Smart Machine Learning Platform

NAVER

FRONT-END WEB DEVELOPMENT, DATA VISUALIZATION

Feb. 2018 - Now

- Front-end, Visualization research for Machine Learning
- Lead developer of visualization including **model analysis, hyperparameter optimization, architecture tuning, and active learning**
- Maintain the cloud system used by over 1000 machine learning engineers and researchers
- Tech-talk [video]
- Presented/introduced at DEVIEW 2018, SysML 2019, LINE Conference 2019, NAVER AI Colloquium 2019, IEEE VIS 2020

An Interactive Visualization System of car racing data for reviewing racers' past games.

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FRONT-END WEB DEVELOPMENT, DATA VISUALIZATION, WEB-DESIGN

May. 2017 - Jan. 2018

- Front-end development, Interactive visualization, Web-design
- Live at [demo]

CommScope: An Interactive Visualization System of public opinions to 19th president candidates from Korean Online Community

Social Computing Lab, KAIST

FRONT-END WEB DEVELOPMENT, DATA VISUALIZATION

Dec. 2016 - May. 2017

- Front-end, Data analysis (text-mining), Interactive 3D network visualization, Web-design
- Live at [demo]
- Article at [Joonang Ilbo].

Development of Data Mining Core Technologies for Real-time Intelligent Information Recommendation in Smart Spaces

MSIP (Ministry of Science, ICT and Future Planning)

RESEARCH ASSISTANT

Oct. 2016 - Jul. 2017

- Visualization of placeness difference between places using Choropleth map and Parallel coordinates

Development of Information Collection and Analysis Technique on Public Opinion related to Nuclear Energy based on Artificial Intelligent Big Data

Future Energy Policy Institute of Kyung Hee University

RESEARCH ASSISTANT

Oct. 2016 - Jun. 2017

- Twitter data crawling, data processing, network analysis & visualization

Research on Cultivation Plan of Technology Manpower against the Fourth Industrial Revolution

NRF (National Research Foundation), Korea Polytechnics

RESEARCH ASSISTANT

Oct. 2016 - Jan. 2017

- MOOC platform & online review community data crawling, data processing, network analysis & visualization

Analysis of public opinions related to city issues based on Online Social Big Data

Goyang City hall

RESEARCH ASSISTANT

Mar. 2017 - Jun. 2017

- Twitter data crawling, data processing, network analysis & visualization

Skills

Programming	JavaScript (d3.js, three.js, react.js, node.js), Python, R, STATA, LaTeX
Tools	Git, Adobe Illustrator, Premiere, XD, Phothoshop, Gephi, Processing
Languages	Korean, English