

Hyunuk Kim

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(Updated on March 12, 2022)

ACADEMIC POSITIONS

Boston University, Boston, MA, USA

Assistant Professor of Administrative Sciences, Metropolitan College
(Faculty in the Applied Business Analytics program)

Jul 2021 – Present

Postdoctoral Associate, Information Systems, Questrom School of Business
(Affiliated with the Institute for Health System Innovation & Policy)

Aug 2019 – Jun 2021

Advisor: Dylan Walker

Northwestern University, Evanston, IL, USA

Visiting Predoctoral Fellow, Management & Organizations, Kellogg School of Management
(Affiliated with the Northwestern Institute on Complex Systems)

Jan 2018 – Jul 2019

Advisor: Hyejin Youn

EDUCATION

Pohang University of Science and Technology (POSTECH), Pohang, Republic of Korea

Ph.D. in Industrial and Management Engineering

Sep 2016 – Aug 2019

Advisor: Woo-Sung Jung

Dissertation: Collective Patterns and Dynamics of Knowledge Creation

M.S. in Industrial and Management Engineering

Sep 2014 – Aug 2016

B.S. in Mathematics (Minor in Industrial and Management Engineering)

Mar 2007 – Feb 2013

RESEARCH INTERESTS

Business Analytics (network science, machine learning, natural language processing)

Computational Social Science (collective learning, collaboration, career trajectory)

Innovation (technological change, foresight, artificial intelligence)

Misinformation (social media, healthcare, intervention, spreading dynamics)

PUBLICATIONS

Kim, Munjung, Jisung Yoon, Woo-Sung Jung, and Hyunuk Kim. “Quantifying the topic disparity of scientific papers.” *2nd International Workshop on Scientific Knowledge Representation, Discovery, and Assessment in conjunction with The Web Conference* (2022). (Accepted)

Kim, Hyunuk, and Dylan Walker. “Leveraging volunteer fact checking to identify misinformation about COVID-19 in social media.” *Harvard Kennedy School Misinformation Review* 1, no. 3 (2020).

- This paper inspired Twitter to launch Birdwatch, a community-driven approach to tackling misinformation
- Media coverage: The Communication Initiative Network

Kim, Hyunuk, Sang-Jin Ahn, and Woo-Sung Jung. “Horizon scanning in policy research database with a probabilistic topic model.” *Technological Forecasting and Social Change* 146 (2019): 588-594.

Kim, Hyunuk, Inho Hong, and Woo-Sung Jung. “Measuring national capability over big science’s multidisciplinary: A case study of nuclear fusion research.” *PLoS One* 14, no. 2 (2019).

Kim, Hyunuk, and Woo-Sung Jung. “Does pitch type-zone uncertainty matter to pitcher’s performance?.” *New Physics: Sae Mulli* 68, no. 6 (2018): 624-629.

- Media coverage: Chosun Biz, Maeil Shinmun, Seoul Traffic Broadcasting System

Kim, Hyunuk, Taekho You, Sang-Jin Ahn, and Woo-Sung Jung. “Embracing networks of national policy research in future foresight.” *International Journal of Knowledge-Based Development* 7, no. 2 (2016): 107-124.

Kim, Hyunuk, and Woo-Sung Jung. “Bibliometric analysis of collaboration network and the role of research station in Antarctic science.” *Industrial Engineering & Management Systems* 15, no. 1 (2016): 92-98.

Kim, Hyunuk, Sang-Jin Ahn, and Woo-Sung Jung. “A study on technology forecasting based on co-occurrence network of keyword in multidisciplinary journals.” *Journal of the Korean Operations Research and Management Science Society* 40, no. 4 (2015): 49-63. (In Korean)

WORKING PAPERS

Kim, Hyunuk, Marcus J. Hamilton, Yuri E. Berezkin, Woo-Sung Jung, and Hyejin Youn. “Deeply nested structure of mythological traditions worldwide.” (Under review in *Science*)

Yoon, Jisung, Woo-Sung Jung, and Hyunuk Kim. “COVID-19 confines recreational gatherings in Seoul to familiar, less crowded, and neighboring urban areas.” (Under review in *Scientific Reports*, <https://arxiv.org/abs/2109.00902>, Corresponding author)

Kahn, Shulamit, Hyunuk Kim, Alicia Modestino, and Dylan Walker. “Estimating MBA premiums from transformer-based models.” (Authors are listed in alphabetical order)

Kim, Hyunuk, Chris Proctor, Ronan McCarthy, and Dylan Walker. “Understanding the consumption of antimicrobial resistance related content on Social Media.”

Kim, Hyunuk, Young-Ho Eom, Daniel Kim, Hawoong Jeong, Woo-Sung Jung, and Hyejin Youn. “How exploitation and exploration shape the knowledge space.”

Kim, Hyunuk, and Dylan Walker. “A method for mining personal traits in social media.”

TALKS

Assessing the hierarchy of human urban dynamics and the effect of the external shock
Networks 2021 (Online) Jul 5, 2021

Data-driven representations of scientific specialization and urban resilience
Invited Talk, Department of Geography, University of Hong Kong, Hong Kong Mar 18, 2021

Data science meets ancient narratives
IBS/POSTECH Joint Seminar on Data Science and Complexity in Social Systems, Republic of Korea Jul 15, 2020

Growing network model for knowledge space: micro to macro views
Dynamics Days 2019, Evanston, IL, USA Jan 04, 2019

Reconstructing technology space from a secret recipe of high impact innovation <i>4th Annual International Conference on Computational Social Science</i> , Evanston, IL, USA	Jul 15, 2018
The structure of mythologies explains early human migrations out of Africa <i>4th Annual International Conference on Computational Social Science</i> , Evanston, IL, USA	Jul 13, 2018
Building technology space from microscopic dynamics to macro structure <i>Conference on Complex Systems 2017</i> , Cancun, Mexico	Sep 20, 2017
The structure of mythologies explains the human expansion out of Africa <i>Conference on Complex Systems 2017</i> , Cancun, Mexico	Sep 20, 2017
Measuring the impact of Tesla's open patents on electric vehicle market <i>Korean Institute of Industrial Engineers Fall Conference 2016</i> , Seoul, Republic of Korea	Nov 19, 2016
Fusion of nations, fusion of disciplines: network evolution in nuclear fusion research <i>Conference on Complex Systems 2016</i> , Amsterdam, Netherlands	Sep 20, 2016

GRANTS & HONORS

GRANTS

Nonprofit Startup Incubator Program, Seoul NPO Center, Republic of Korea ("Prisming: Blockchain for in-kind donation." ca. \$4,000)	Jun 2018 – Dec 2018
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FELLOWSHIPS

Global Ph.D. Fellow, National Research Foundation, Republic of Korea ("Evolutionary dynamics of technological innovation." ca. \$60,000)	Mar 2017 – Aug 2019
Creative KISTEP Fellow, KISTEP, Republic of Korea ("Analyzing S&T knowledge structure by community detection in multislice network." ca. \$1,500)	Apr 2017 – Aug 2017
Asan Young Fellow, Asan Institute for Policy Studies, Republic of Korea	Apr 2013 – Dec 2013

HONORS

First Prize, Ph.D. Student Research Competition, Department of IME, POSTECH	Jan 2017
Excellence Award, Master's Student Research Competition, KIIE Fall Conference 2016	Nov 2016
Encouraging Paper, SOItnC & Knowledge Cities World Summit 2015	Jun 2015

TEACHING & ADVISING

TEACHING

Business Analytics Foundations (AD571), Boston University, USA
- Spring 2022 (29 students), Fall 2021 (21 students)
Enterprise Risk Analytics (AD616), Boston University, USA
- Spring 2022 (45 students), Fall 2021 (40 students)
Data Mining for Business Analytics (AD699), Boston University, USA
- Spring 2022 (25 students)

COURSE DEVELOPMENT

Python and Neural Networks (BA865), Boston University, USA (with Dylan Walker, please visit https://github.com/dylanwalker/BA865)
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ADVISING

Boston University, USA

: Taehoon Kim, Yuchen Wang, Yanru Zhou, Jacob Raillon, Haotian Gu, Janani Jayesh, Wenqiang Gao

Pohang University of Science and Technology, Republic of Korea

: Jisung Yoon, Munjung Kim, Jungmin Kwon, Joo Hong Min

REFERENCES

Dr. Woo-Sung Jung, *Professor*

Department of Industrial and Management Engineering / Physics

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Dr. Hyejin Youn, *Associate Professor*

Management & Organizations Department, Kellogg School of Management

Northwestern University, Evanston, IL 60208, USA

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Dr. Dylan Walker, *Associate Professor*

Argyros School of Business & Economics

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