

# Hyunuk Kim

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(Updated on February 21, 2023)

## ACADEMIC POSITIONS

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### **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

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### **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

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

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

Innovation (technological change, foresight, artificial intelligence)

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

## PUBLICATIONS

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Yoon, Jisung, Woo-Sung Jung, and Hyunuk Kim. "COVID-19 confines recreational gatherings in Seoul to familiar, less crowded, and neighboring urban areas." *Humanities and Social Sciences Communications* 9 (2022). <https://doi.org/10.1057/s41599-022-01349-4>

Kim, Munjung, Jisung Yoon, Woo-Sung Jung, and Hyunuk Kim. "Quantifying the topic disparity of scientific papers." In *Companion Proceedings of the Web Conference 2022* (2022). <https://doi.org/10.1145/3487553.3524655>

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). <https://doi.org/10.37016/mr-2020-021>

- This paper partly 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). <https://doi.org/10.1016/j.techfore.2018.02.007>

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). <https://doi.org/10.1371/journal.pone.0211963>

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. <https://doi.org/10.3938/NPSM.68.624>

- 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).

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. <https://doi.org/10.7232/iems.2016.15.1.092>

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) <https://doi.org/10.7737/JKORMS.2015.40.4.049>

## WORKING PAPERS

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

Kim, Hyunuk. “Global mobility of the STEM postdoctoral workforce registered in ORCID.” (Under review, <https://doi.org/10.31235/osf.io/cugv6>)

Kim, Hyunuk, Shulamit Kahn, Alicia Modestino, Bledi Taska, and Dylan Walker. “Estimating MBA salary premiums with resume data using natural language processing models.”

Kim, Hyunuk, Marcus J. Hamilton, Yuri E. Berezkin, Woo-Sung Jung, and Hyejin Youn. “Deeply nested structure of mythological traditions worldwide.”

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

## TALKS

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Spotting global warming misinformation from replies on social media	Sep 22, 2022
<i>World Knowledge Forum 2022</i> , Seoul, Republic of Korea	

Understanding the consumption of antimicrobial resistance related content on Social Media	Jul 22, 2022
<i>8th International Conference on Computational Social Science</i> , Chicago, IL, USA	

Quantifying the topic disparity of scientific articles <i>2nd International Workshop on Scientific Knowledge, The Web Conference 2022 (Online)</i>	April 26, 2022
Assessing the hierarchy of human urban dynamics and the effect of the external shock <i>Networks 2021 (Online)</i>	Jul 5, 2021
Data-driven representations of scientific specialization and urban resilience <i>Invited Talk, Department of Geography, University of Hong Kong, Hong Kong</i>	Mar 18, 2021
Data science meets ancient narratives <i>IBS/POSTECH Joint Seminar on Data Science and Complexity in Social Systems, Republic of Korea</i>	Jul 15, 2020
Growing network model for knowledge space: micro to macro views <i>Dynamics Days 2019, Evanston, IL, USA</i>	Jan 04, 2019
Reconstructing technology space from a secret recipe of high impact innovation <i>4th International Conference on Computational Social Science, Evanston, IL, USA</i>	Jul 15, 2018
The structure of mythologies explains early human migrations out of Africa <i>4th International Conference on Computational Social Science, Evanston, IL, USA</i>	Jul 13, 2018
Building technology space from microscopic dynamics to macro structure <i>Conference on Complex Systems 2017, Cancun, Mexico</i>	Sep 20, 2017
The structure of mythologies explains the human expansion out of Africa <i>Conference on Complex Systems 2017, Cancun, Mexico</i>	Sep 20, 2017
Fusion of nations, fusion of disciplines: network evolution in nuclear fusion research <i>Conference on Complex Systems 2016, Amsterdam, Netherlands</i>	Sep 20, 2016

## GRANTS & HONORS

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### GRANTS

Focused Research Program, BU ISE & The Hariri Institute for Computing, MA, USA (A contributor to the collaborative proposal "Data and Misinformation in an Era of Sustainability and Climate Change Crises.", ca. \$120,000)	Jul 2022 – Jun 2023
Nonprofit Startup Incubator Program, Seoul NPO Center, Republic of Korea (“Prisming: Blockchain for in-kind donation.” ca. \$4,000)	Jun 2018 – Dec 2018

### 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, SOItmC & Knowledge Cities World Summit 2015	Jun 2015

## TEACHING & ADVISING

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### TEACHING

Business Analytics Foundations (AD571), Boston University, USA

- Fall 2022 (Face-to-face, Instructor Evaluation 4.83/5.00, Response Rate 53% - 24/45 Students)
- Summer 1 2022 (Face-to-face, Instructor Evaluation 5.00/5.00, Response Rate 46% - 12/26 Students)
- Spring 2022 (Face-to-face, Instructor Evaluation 4.70/5.00, Response Rate 93% - 27/29 Students)
- Fall 2021 (Face-to-face, Instructor Evaluation 4.88/5.00, Response Rate 81% - 17/21 Students)

Enterprise Risk Analytics (AD616), Boston University, USA

- Fall 2022 (Face-to-face, Instructor Evaluation 4.72/5.00, Response Rate 45% - 18/40 Students)
- Summer 1 2022 (Online, Instructor Evaluation 4.09/5.00, Response Rate 51% - 36/70 Students)
- Spring 2022 (Face-to-face, Instructor Evaluation 4.86/5.00, Response Rate 82% - 37/45 Students)
- Fall 2021 (Face-to-face, Instructor Evaluation 4.57/5.00, Response Rate 70% - 28/40 Students)

Data Mining for Business Analytics (AD699), Boston University, USA

- Spring 2022 (Face-to-face, Instructor Evaluation 4.77/5.00, Response Rate 52% - 13/25 Students)

### COURSE DEVELOPMENT

Python and Neural Networks (BA865), Boston University, USA

(with Dylan Walker, please visit <https://github.com/dylanwalker/BA865>)

### ADVISING

Boston University, USA

Jiaqi Li, Yanru Zhou, Yunlou Teng, Luyao Yang, ZiHui Gan, Lu-Chieh Chen, Qingkai Wu, Yijing Gu, Xiaoyun Li, Yixiao Wang, Taehoon Kim, 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

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Dr. Woo-Sung Jung, *Professor*

Department of Industrial and Management Engineering / Physics

Pohang University of Science and Technology, Pohang 37673, Republic of Korea

[wsjung@postech.ac.kr](mailto:wsjung@postech.ac.kr)

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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