

Hyunuk Kim

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(Updated on December 30, 2024)

ACADEMIC POSITIONS

Elon University, Elon, NC, USA

Assistant Professor of Business Analytics, Martha and Spencer Love School of Business	Aug 2023 – Present
Director, Center for Organizational Analytics	Aug 2024 – Present
Associate Director, Center for Organizational Analytics	Oct 2023 – Jul 2024

Boston University, Boston, MA, USA

Assistant Professor of Administrative Sciences, Metropolitan College (Faculty in the Applied Business Analytics program)	Jul 2021 – Jun 2023
Postdoctoral Associate, Information Systems, Questrom School of Business (Affiliated with the Institute for Health System Innovation & Policy) Advisor: Dylan Walker	Aug 2019 – Jun 2021

Northwestern University, Evanston, IL, USA

Visiting Predoctoral Fellow, Management & Organizations, Kellogg School of Management (Affiliated with the Northwestern Institute on Complex Systems) Advisor: Hyejin Youn	Jan 2018 – Jul 2019
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EDUCATION

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

Ph.D. in Industrial and Management Engineering Advisor: Woo-Sung Jung Dissertation: Collective Patterns and Dynamics of Knowledge Creation	Sep 2016 – Aug 2019
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)
Misinformation (social media, healthcare, intervention, spreading dynamics)
Innovation (technological change, foresight, artificial intelligence)
Computational Social Science (collective learning, collaboration, career trajectory)

PUBLICATIONS

Kim, Hyunuk. "Global mobility of the recent STEM postdoctoral workforce registered in ORCID." *Quantitative Science Studies* (2024). https://doi.org/10.1162/qss_a_00341

Jo, Seonbin, Woo-Sung Jung, and Hyunuk Kim. "Wallets' explorations across non-fungible token collections." *Scientific Reports* 14 (2024). <https://doi.org/10.1038/s41598-024-78379-2>

Kim, Hyunuk, Chris R. Proctor, Dylan Walker, and Ronan R. McCarthy. "Understanding the Consumption of Antimicrobial Resistance-Related Content on Social Media: Twitter Analysis." *Journal of Medical Internet Research* 25 (2023): e42363. <https://doi.org/10.2196/42363>

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

Lee, Jennifer, and Hyunuk Kim. "Conceptual articles may disrupt the field of marketing: Evidence from a GPT-assisted study." (Submitted to *Scientometrics*, <https://doi.org/10.48550/arXiv.2308.14724>)

Kim, Hyunuk, Dylan Walker. "A Wikidata-based model for website domain classification and its application to user-generated content." (Submitted to *International Journal of Cooperative Information Systems*)

Kim, Hyunuk, Marcus J. Hamilton, Woo-Sugn Jung, and Hyejin Youn. "Deeply nested structure of mythological traditions worldwide." (<https://arxiv.org/abs/2408.07300>)

TALKS

Global mobility of the STEM postdoctoral workforce registered in ORCID <i>3rd International Conference on Science of Science and Innovation</i> , Washington DC, USA	July 1, 2024
The consumption of scientific information on social media <i>Elon Faculty Scholarship Lunch & Learn</i> , Elon University, NC, USA	Mar 21, 2024
Engineering-minded approaches to societal issues <i>Invited Talk</i> , Department of Industrial and Management Engineering, POSTECH, Korea	Jan 4, 2024
Spotting global warming misinformation from replies on social media <i>World Knowledge Forum 2022</i> , Seoul, Korea	Sep 22, 2022
Understanding the consumption of antimicrobial resistance related content on social media <i>8th International Conference on Computational Social Science</i> , Chicago, IL, USA	Jul 22, 2022
Quantifying the topic disparity of scientific articles <i>2nd International Workshop on Scientific Knowledge, The Web Conference 2022 (Online)</i>	Apr 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</i> , Department of Geography, University of Hong Kong, Hong Kong	Mar 18, 2021
Data science meets ancient narratives <i>IBS/POSTECH Seminar on Data Science and Complexity in Social Systems</i> , Korea	Jul 15, 2020
Growing network model for knowledge space: micro to macro views <i>Dynamics Days 2019</i> , Evanston, IL, USA	Jan 04, 2019
Reconstructing technology space from a secret recipe of high impact innovation <i>4th 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 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
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

Elon Innovation Grant, Elon University, NC, USA ("Computational Social Science Initiative at Elon", \$5,000)	Jan 2024 – Dec 2025
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)	Jun 2018 – Dec 2018
Nonprofit Startup Incubator Program, Seoul NPO Center, Republic of Korea ("Prisming: Blockchain for in-kind donation", ca. \$4,000)	

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, SOI+MC & Knowledge Cities World Summit 2015	Jun 2015

TEACHING & ADVISING

TEACHING

Elon University, USA Data Wrangling (MGT4110), Data Visualization and Storytelling (MGT4250)	
Boston University, USA Business Analytics Foundations (AD571), Enterprise Risk Analytics (AD616), Data Mining for Business Analytics (AD699), Neural Networks for Business Applications (AD799)	

COURSE DEVELOPMENT

Neural Networks for Business Applications, Boston University, USA	
Python and Neural Networks, Boston University, USA (with Dylan Walker; https://github.com/dylanwalker/BA865)	

ADVISING IN RESEARCH

Elon University, USA – Rafi Dahdal	
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	
POSTCH, Republic of Korea – Jisung Yoon, Munjung Kim, Jungmin Kwon, Joo Hong Min	