

Hyunuk Kim

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ACADEMIC POSITIONS

Boston University, Boston, MA, USA

Postdoctoral Associate, Questrom School of Business

(affiliated with the Institute for Health System Innovation & Policy)

Advisor: Prof. Dylan Walker

Aug 2019 – Present

Northwestern University, Evanston, IL, USA

Visiting Predoctoral Fellow, Kellogg School of Management

(affiliated with the Northwestern Institute on Complex Systems)

Advisor: Prof. Hyejin Youn

Jan 2018 – Jul 2019

Santa Fe Institute, Santa Fe, NM, USA

Visiting Student Researcher

Feb 2016 – Mar 2016

EDUCATION

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

Ph.D. in Industrial and Management Engineering

Advisor: Prof. 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

Computational Social Science (collective learning, collaboration)

Network Science (growth model, community detection, homophily)

Innovation (foresight, technological change, evolutionary dynamics)

Misinformation (social media, machine learning, healthcare, intervention)

PUBLICATIONS

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).

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.

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, and Dylan Walker. [Title withheld for blind review]. Submitted to the *14th ACM International Conference on Web Search and Data Mining*.

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, Marcus J. Hamilton, Yuri E. Berezkin, Woo-Sung Jung, and Hyejin Youn. “The deep structure of narrative motifs shared across human cultures.”

Kim, Hyunuk, and Dylan Walker. “Homophily and exposure to misinformation.”

TALKS

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, USA
Jan 04, 2019

Reconstructing technology space from a secret recipe of high impact innovation
4th Annual International Conference on Computational Social Science, Evanston, USA
Jul 15, 2018

The structure of mythologies explains early human migrations out of Africa
4th Annual International Conference on Computational Social Science, Evanston, USA
Jul 13, 2018

Building technology space from microscopic dynamics to macro structure
Conference on Complex Systems 2017, Cancun, Mexico
Sep 20, 2017

The structure of mythologies explains the human expansion out of Africa
Conference on Complex Systems 2017, Cancun, Mexico
Sep 20, 2017

Measuring the impact of Tesla’s open patents on electric vehicle market
Korean Institute of Industrial Engineers Fall Conference 2016, Seoul, Republic of Korea
Nov 19, 2016

Fusion of nations, fusion of disciplines: network evolution in nuclear fusion research
Conference on Complex Systems 2016, Amsterdam, Netherlands
Sep 20, 2016

Predicting future issues with keyword network of national policy research
SOITmC & Knowledge Cities World Summit 2015, Daegu, Republic of Korea
Jun 16, 2015

GRANTS & HONORS

GRANTS

Global PhD Fellow, National Research Foundation, Republic of Korea ("Evolutionary dynamics of technological innovation." ca. \$50,000)	Mar 2017 – Aug 2019
Nonprofit Startup Incubator Program, Seoul NPO Center, Republic of Korea ("Prisming: Blockchain for in-kind donation." ca. \$4,200)	Jun 2018 – Dec 2018
Creative KISTEP Fellow, KISTEP, Republic of Korea ("Analyzing S&T knowledge structure by community detection in multislice network." ca. \$1,600)	Apr 2017 – Aug 2017

HONORS

First Prize, PhD Student Research Competition, Department of IME, POSTECH	Jan 2017
Excellence Award, Master's Student Research Competition, KIIE Fall Conference 2016	Nov 2016
Encouraging Paper, SOIImC & Knowledge Cities World Summit 2015	Jun 2015
Asan Young Fellow, Asan Institute for Policy Studies, Republic of Korea	Apr 2013 – Dec 2013

TEACHING & ADVISING

COURSE DEVELOPMENT

Python and Neural Networks, Boston University, USA (with Prof. Dylan Walker, please visit https://github.com/dylanwalker/BA865)	Fall 2019, Winter 2020
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TEACHING ASSISTANT

Python and Neural Networks, Boston University, USA	Winter 2020
Social Dynamics and Network Analysis – Genius Bar, Northwestern University, USA	Spring 2018, Winter 2019

ADVISING

Jungmin Kwon, Undergraduate in Physics, POSTECH	2016
Joo Hong Min, Undergraduate in Physics, POSTECH	2016

REFERENCES

Dr. Woo-Sung Jung, *Associate Professor*
Department of Industrial and Management Engineering / Physics
Pohang University of Science and Technology, Pohang 37673, Republic of Korea
wsjung@postech.ac.kr

Dr. Hyejin Youn, *Assistant Professor*
Management & Organizations Department, Kellogg School of Management
Northwestern University, Evanston, IL 60208, USA
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Dr. Dylan Walker, *Assistant Professor*
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