

# Hyunuk Kim

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## ACADEMIC POSITIONS

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<b>Boston University</b> , Boston, MA, USA Postdoctoral Associate, Questrom School of Business (affiliated with Institute for Health System Innovation & Policy) Advisor: Prof. Dylan Walker	Aug 2019 – Current
<b>Northwestern University</b> , Evanston, IL, USA Visiting Predoctoral Fellow, Kellogg School of Management (affiliated with Northwestern Institute on Complex Systems) Advisor: Prof. Hyejin Youn	Jan 2018 – Jul 2019
<b>Santa Fe Institute</b> , Santa Fe, NM, USA Visiting Student Researcher	Feb 2016 – Mar 2016

## EDUCATION

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<b>Pohang University of Science and Technology</b> , 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

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Computational Social Science (collective learning, collaboration)  
Network Science (growth model, community detection, homophily)  
Innovation (foresight, technological change, evolutionary dynamics)  
Misinformation (social media, healthcare, machine learning, intervention)

## PUBLICATIONS

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Kim, Hyunuk, and Dylan Walker, "Leveraging volunteer fact checking to identify misinformation about COVID-19 in social media." *The Harvard Kennedy School (HKS) Misinformation Review* 1 (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

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Kim, Hyunuk, Young-Ho Eom, Daniel Kim, Hawoong Jeong, Woo-Sung Jung, and Hyejin Youn, "Building knowledge space from microscopic behaviors to macroscopic structure."

Kim, Hyunuk, Marcus J. Hamilton, Woo-Sung Jung, and Hyejin Youn, "The global structure of myths and folktales."

Kim, Hyunuk, and Dylan Walker, "Homophily and exposure to misinformation"

## TALKS

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Growing network model for knowledge space: micro to macro views <i>Dynamics Days 2019, Evanston, USA</i>	Jan 04, 2019
Reconstructing technology space from a secret recipe of high impact innovation <i>4th Annual International Conference on Computational Social Science, Evanston, USA</i>	Jul 15, 2018
The structure of mythologies explains early human migrations out of Africa <i>4th Annual International Conference on Computational Social Science, Evanston, 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
Measuring the impact of Tesla's open patents on electric vehicle market <i>Korean Institute of Industrial Engineers Fall Conference 2016, Seoul, Republic of Korea</i>	Nov 19, 2016
Fusion of nations, fusion of disciplines: network evolution in nuclear fusion research <i>Conference on Complex Systems 2016, Amsterdam, Netherlands</i>	Sep 20, 2016
Predicting future issues with keyword network of national policy research <i>SOItmC &amp; Knowledge Cities World Summit 2015, Daegu, Republic of Korea</i>	Jun 16, 2015

## GRANTS & HONORS

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### GRANTS

- Global PhD Fellow, Ministry of Education, Republic of Korea Mar 2017 – Aug 2019  
("Evolutionary dynamics of technological innovation." ca. \$50,000)

- Nonprofit Startup Incubator Program, Seoul NPO Center, Republic of Korea Jun 2018 – Dec 2018  
("Prisiming: Blockchain for in-kind donation." ca. \$4,200)
- Creative KISTEP Fellow, KISTEP, Republic of Korea Apr 2017 – Aug 2017  
("Analyzing S&T knowledge structure by community detection in multislice network." ca. \$1,600)

## HONORS

- First Prize, Department Research Contest, POSTECH Jan 2017
- Excellence Award, The 12th Master's Student Research Contest, KIIE Fall Conference 2016 (KIIE: Korean Institute of Industrial Engineers) Nov 2016
- Encouraging Paper, SOItmC & Knowledge Cities World Summit 2015 Jun 2015
- Asan Young Fellow, Asan Institute for Policy Studies, Republic of Korea Apr 2013 – Dec 2013

## TEACHING & ADVISING

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### COURSE DEVELOPMENT

- Python and Neural Networks, Boston University, USA Fall 2019, Winter 2020  
(with Prof. Dylan Walker)

### TEACHING ASSISTANT

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

### ADVISING

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

## REFERENCES

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Dr. Woo-Sung Jung, *Associate Professor*  
Department of Industrial and Management Engineering / Physics  
Pohang University of Science and Technology, Pohang 37673, Republic of Korea  
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Dr. Hyejin Youn, *Assistant Professor*  
Management & Organizations Department at Kellogg School of Management  
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Dr. Dylan Walker, *Assistant Professor*  
Information Systems Department at Questrom School of Business  
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