

# Hyunuk Kim

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## ACADEMIC POSITIONS

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**Boston University**, Boston, MA, USA

Postdoctoral Associate, Questrom School of Business  
(affiliated with Institute for Health System Innovation & Policy)

Aug 2019 – Current

Advisor: Prof. Dylan Walker

**Northwestern University**, Evanston, IL, USA

Visiting Predoctoral Fellow, Kellogg School of Management  
(affiliated with Northwestern Institute on Complex Systems)

Jan 2018 – Jul 2019

Advisor: Prof. Hyejin Youn

**Santa Fe Institute**, Santa Fe, NM, USA

Visiting Student Researcher

Feb 2016 – Mar 2016

## EDUCATION

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

Ph.D. in Industrial and Management Engineering

Sep 2016 – Aug 2019

Advisor: Prof. 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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Computational Social Science (collective learning, collaboration)

Network Science (growth model, community detection)

Innovation (foresight, technological change, evolutionary dynamics)

Misinformation (fake news, intervention, randomized controlled trials)

## PUBLICATIONS

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

Hyunuk Kim, Inho Hong, and Woo-Sung Jung, “Measuring national capability over big science’s multidisciplinary: A case study of nuclear fusion research,” *PLoS One*, vol. 14, no. 2, e0211963, 2019.

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

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

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

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

## WORKING PAPERS

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

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

Hyunuk Kim and Dylan Walker, “Identifying and correcting misinformation online on antibiotic use and antimicrobial resistance”

## TALKS

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

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

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

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

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

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

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

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

## HONORS & AWARDS

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### HONORS

- Global PhD Fellow, Ministry of Education, Republic of Korea Mar 2017 – Aug 2019
- Creative KISTEP Fellow, KISTEP, Republic of Korea Apr 2017 – Aug 2017  
(KISTEP: Korea Institute of S&T Evaluation and Planning)
- Asan Young Fellow, Asan Institute for Policy Studies, Republic of Korea Apr 2013 – Dec 2013

### AWARDS

- Nonprofit Startup Incubator Program, Seoul NPO Center, Republic of Korea Jun 2018 – Dec 2018  
(Blockchain for in-kind donation)
- First Prize, Department Research Contest, POSTECH Jan 2017
- Excellence Award, The 12th Master's Student Research Contest, Nov 2016  
KIIE Fall Conference 2016 (KIIE: Korean Institute of Industrial Engineers)
- Encouraging Paper, SOItmC & Knowledge Cities World Summit 2015 Jun 2015

## 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

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*

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Northwestern University, Evanston, IL 60208, USA

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Dr. Dylan Walker, *Assistant Professor*

Information Systems Department at Questrom School of Business

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