Munjung Kim

Email: munjkim@iu.edu
Homepage: munjungkim.github.io

Education & Training	**Indiana University Bloomington**	Aug 2022–Present

Doctor of Philosophy, Informatics

- Advisor: Dr. Yong-Yeol Ahn

	Pohang University of Science and Technology	Feb 2017 - Feb 2022

Bachelor of Science, Physics

	Santa Fe Institute Complex Systems Summer School	Jun 2023 - July 2023

Work Experience	**Nokia Bell Labs**	*Cambridge, UK*
	Research Intern	June 2024– Aug 2024

- Identifying job tasks expected to be impacted by disruptive AI technologies using LLMs, text embeddings, and patent citation network analysis [W2]

	SK Hynix	*Icheon, South Korea*
	Quality Control Intern	Jan 2020– Feb 2020

Research Interest

Machine Learning (network representation learning, language models)
Computational Social Science (innovation, collective intelligence, science of science)

Working Papers

[W1] **Munjung Kim** and Yong-Yeol Ahn. *Mitigating Imitative Falsehoods in LLMs Through Crowdsourcing Techniques*.

[W2] **Munjung Kim**, Marios Constantinides, Sanja Šćepanović, Yong-Yeol Ahn, and Daniele Quercia. *Augmenting Minds or Automating Routines? The Potential Impact of Disruptive AI Innovations on U.S. Occupations*.

[W3] **Munjung Kim**, Sadamori Kojaku, and Yong-Yeol Ahn. *Uncovering simultaneous scientific breakthroughs with a robust measure of disruptiveness*. [Draft] [github].

[W4] Rachith Aiyappa, Xin Wang, **Munjung Kim**, Ozgur Can Seckin, Jisung Yoon, Yong-Yeol Ahn, and Sadamori Kojaku. "Implicit degree bias in the link prediction task". *arXiv preprint arXiv:2405.14985* (2024).

Publications

[A1] **Munjung Kim**, Tuğrulcan Elmas, and Filippo Menczer. "Toxic Synergy Between Hate Speech and Fake News Exposure". *Proceedings of the 18th International AAAI Conference on Web and Social Media (ICWSM 2024)* (2024).

[A2] Matthew R DeVerna, Rachith Aiyappa, Wanying Zhao, Manita Pote, Bao Tran Truong, David Axelrod, Aria Pessianzadeh, Zoher Kachwala, **Munjung Kim**, Ozgur Can Seckin, et al. "A multi-platform collection of social media posts about the 2022 US midterm elections". *Proceedings of the international AAAI conference on web and social media* (2023).

[A3] **Munjung Kim**, Jisung Yoon, Woo-Sung Jung, and Hyunuk Kim. "Quantifying the topic disparity of scientific articles". *Companion Proceedings of the Web Conference 2022* (2022), pp. 769–773.

Oral Presentations

Invited Talks

- KDI School Special Lecture — 12/17/2024
- KAIST STP Science of Science Research Seminar — 12/18/2024
- SNU Business School Workshop — 01/03/2025
- KISTI — 01/24/2025

Contributed Talks

> **Munjung Kim**, Sadamori Kojaku, and Yong-Yeoal Ahn. "A Continuous Embedding Measure of Disruptiveness Reveals Hidden Simultaneous Disruption". IC2S2. 2024.

> **Munjung Kim**, Sadamori Kojaku, and Yong-Yeoal Ahn. "Quantifying disruptiveness using neural embedding method". Netsci 2023. 2023.

> **Munjung Kim**, Jisung Yoon, Hyunuk Kim, and Woo-Sung Jung. "Neural embedding of research papers reveals characteristics of policy research institutes". Networks 2021: A Joint Sunbelt & NetSci Conference. 2021.

> **Munjung Kim**. "Quantitative Analysis on Institutions' Activity Policy Research with Embedding Method". Korea Academy of Complexity Studies. 2019.

> **Munjung Kim**, Jisung Yoon, and Woo-Sung. "Quantitative Analysis on Institutions' Activity Policy Research with Embedding Method". Korea Academy of Complexity Studies. 2019.

Honors &Awards	**Humane Studies Fellowship**, Institute for Humane Studies, 2024/ ca. $5,000 **National Scholarship for Excellence (Sci. & Eng.)**, Korea Student Aid Foundation, 2017-2021 / ca. $20,000 **Global Talent Attraction Program** (Postponed due to Covid19), Indiana University, 2020 / ca. $4,000 Semester of High Honor, 2019, 2020, 2021 Senior Mentoring Program Scholarship, 2019,2020

Skills

Computer Language: Python, R, Matlab, C, C++, Cython

Workflow for Reproducible Data Analysis: Snakemake

Analysis Modules: Pytorch, Sci-kit Learn, Numpy, Scipy, Pandas, igraph, NetworkX

Languages: English (Proficient), Korean (Native)

Service

Journal Reviewer

- 2025 Nature Matters Arising
- 2025 Network Science

Conference Reviewer

- International Conference on Computational Social Science 2025
- International Conference on Computational Social Science 2024
- International Society for Scientometrics and Informetrics 2023 conference
- International Workshop on Cyber Social Threats (CySoc '23)
- International Workshop on Cyber Social Threats (CySoc '24)

References

Dr. Yong-Yeol Ahn, *Associate Professor*
Luddy Shool of Informatics, Computing, and Engineering
Indiana University Bloomington, Bloomington, IN, USA
yyahn@iu.edu

Dr. Hyunuk Kim, *Assistant Professor*
Business Analytics
Elon University, Elon, NC, USA
hkim6@elon.edu

Dr. Sadamor Kojaku, *Assistant Professor*
Systems Science and Industrial Engineering
Binghamton University, Binghamton, NY, USA
skojaku@binghamton.edu