

# Jinhyuk Yun

CONTACT INFORMATION	Future Technology Analysis Center, Korea Institute of Science and Technology Information (Seoul Office), 66 Hoegiro, Dongdaemun-gu, Seoul, 02456, Republic of Korea	TEL: +82-2-3299-6061 FAX: +82-2-3299-6219 E-mail: jinhyuk.yun@kisti.re.kr Web: <a href="https://bluekura.github.io">https://bluekura.github.io</a>
ACADEMIC · INDUSTRIAL POSITIONS	<b>KISTI</b> , Seoul, South Korea Senior Research Scientist, Future Technology Analysis Center <b>Naver Corporation</b> , Seongnam, South Korea Data Scientist, Naver Search <b>KAIST</b> , Daejeon, South Korea Research Assistant Teaching Assistant	Dec 16 – present Aug 16 – Dec 16 Feb 13 – Aug 16 Feb 11 – Dec 12
EDUCATION	Ph.D. Physics, KAIST (Daejeon, South Korea), August 2016 <ul style="list-style-type: none"><li>• Thesis topic: Theoretical study on a Spreading in Human Society</li><li>• Advisor: Professor Hawoong Jeong</li></ul> B.S. Physics, KAIST (Daejeon, South Korea), February 2010 Exchange Student, INSA (Lyon, France), Aug. 2008 - Jul. 2009	
TEACHING AND ADVISING	<b>Teaching Assistant, KAIST</b> Statistical Physics Thermal Physics Advanced Physics II Advanced Physics I <b>Student Training Program, KISTI</b> Young Jin Kim (Ph.D.), Hanyang University <b>Ph.D. thesis review</b> Young Jin Kim, Hanyang University	Fall 2012 Spring 2012 Fall 2011 Spring 2011 2018 – 2019 2019
GRANT, AWARDS, AND FELLOWSHIPS	<b>Grants</b> <ul style="list-style-type: none"><li>• PI, National Research Foundation of Korea (Strategic Project on the Industrial Mathematics), Study on the Knowledge Ecosystem of 4th Industrial Revolution using Big Data, 09/2017 – 08/2020</li></ul> <b>Awards</b> <ul style="list-style-type: none"><li>• Outstanding Young Researcher Award, Korea Institute of Science and Technology Information (Daejeon, South Korea), 2018</li><li>• Young Investigator Training Award, Challenges in Data Science (Matera, Italy), 2016</li><li>• Best project award (1st prize), The 5th KIAS CAC Summer School on Parallel Computing (Seoul, South Korea), 2014</li><li>• Bronze award, The 5th BK21 Young Physicists Workshop (Daejeon, South Korea), 2012</li></ul>	

### Scholarship

- National Graduate Science & Technology Scholarship, 02/2010–12/2015
- National Undergraduate Science & Technology Scholarship, 03/2005–12/2009

RESEARCH INTERETS Data Science, Network Science, Artificial Intelligence, Machine Learning, Modeling Human Behavior, Computational Social Science, Econophysics, Cultural Science, Science of Science, Scientometrics

### PUBLICATIONS

#### Articles

- **Jinhyuk Yun**, S.H. Lee, and H. Jeong, Early onset of structural inequality in the formation of collaborative knowledge in all Wikimedia projects, *Nature Human Behaviour* 3, 155–163 (2019) [Featured as the cover article]
- Jisung Yoon, **Jinhyuk Yun**, Woo-Sung Jung, Build Up of a Subject Classification System from Collective Intelligence, *New Phys.: Sae Mulli* 68, 647–654 (2018)
- **Jinhyuk Yun**, S.H. Lee, and H. Jeong, Intellectual interchanges in the history of massive online open-editing encyclopedia, Wikipedia, *Phys. Rev. E* 93, 012307 (2016)
- **Jinhyuk Yun**, P.-J. Kim, and H. Jeong, Anatomy of scientific evolution, *PLoS ONE* 10(2): e0117388 (2015)
- **Jinhyuk Yun**, S. Ahn, and J.Y. Lee, On the Heterogeneous Distributions in Paper Citations (submitted)

#### Books and reports

- **Jinhyuk Yun** and Young Jin Kim, Future of the open innovation on the GitHub, KISTI Data Insight No.3 (2018)

### SELECTED TALKS

#### Invited conference talks and lectures

- AI+X Forum: AI+Applied Science (Daejeon, South Korea) 6/21/2019
- AI Friends Forum (Daejeon, South Korea) 6/19/2019
- Econophysics Workshop (Gwangju, South Korea) 11/16/2018
- The 5th International Workshop on Physics of Social Complexity (Pohang, South Korea) 2/11/2017

#### Invited colloquia and seminars

- School of Informatics, Computing & Engineering, Indiana University Bloomington (Bloomington, IN, United States) 5/8/2019
- Center for Complex Networks and Systems Research (CNetS), Indiana University Bloomington (Bloomington, IN, United States) 5/7/2019
- Northwestern Institute on Complex Systems (NICO), Northwestern University (Evanston, IL, United States) 5/3/2019
- Department of Physics Education, Chosun University (Gwangju, South Korea) 4/3/2019
- Department of Electrical Engineering, Postech (Pohang, South Korea) 5/4/2018
- Center of Bio and Basic Science R&D Coordination, KISTEP (Seoul, South Korea) 3/19/2018
- Department of Physics, University of Seoul (Seoul, South Korea) 2/20/2018
- Statistical Physics Lab, Department of Physics, Inha University (Incheon, South Korea) 12/01/2017

## SERVICE

### Academic Reviewer

- PC member: Conference on Complex Systems 2019
- Journals: Scientific Reports; The European Physical Journal B (EPJB); Journal of the Korean Physical Society (JKPS); New Physics: Sae Mulli.
- Conferences: The 9th International AAAI Conference on Web And Social Media (ICWSM-15); The 10th International AAAI Conference on Web And Social Media (ICWSM-15).

## RESEARCH TECHNIQUES

**Languages:** C, C++, Python, CUDA, MATLAB, *etc.*

**Machine learning:** Keras, Tensorflow, Scikit-learn, Gensim, *etc.*

**Data visualization:** Gephi, Cytoscape, Matplotlib, Gnuplot, *etc.*

**Analysis tools:** Network X, Pandas, Dask, OpenMP, numpy, scipy, *etc.*

**System operation:** Served as a system administrator for 8 years

1) 50 nodes network cluster (Hadoop, Spark, MPI, SGE, *etc.*)

2) 192 cores workstation

3) 128GB/256GB large-memory workstations

**General:** Agent-based modeling, Monte Carlo simulation, Statistical methods, Information theory, Game theory.

**Human languages:** Korean (Native), English (Advanced), French (Intermediate), Japanese (Basic)

## IN THE PRESS

### Research highlights

- Early onset of structural inequality in the formation of collaborative knowledge in all Wikimedia projects
  - Nature Human Behaviour Editorial: Inequalities in crowdsourced knowledge
  - Behavioural and Social Sciences at Nature Research: How I met my collaborators
  - The Korea Bizwire: Study Shows a Monopolizing Few Can Control Collective Intelligence
  - NRC Handelsblad: Op Wikimedia is niet iedereen gelijk (in Dutch)
  - 한겨레: 집단지성의 성체 위키백과, 지식정보의 편향 넘을 수 있을까 (in Korean)
  - 과학동아: 숙제할 때 찾는 위키백과 서로 못 믿어서 내용이 정확해졌다? (in Korean)
  - 중앙일보: 인터넷, 정보 평등 세상 같지만, 실상은 소수가 여론 쉽게 독점 (in Korean)
  - 중앙일보: 인터넷 여론, 소수가 쉽게 독점 (in Korean)
  - 경향신문: 온라인 집단지성, 다수 아닌 소수가 독점 (in Korean)
  - 연합뉴스: 정보 틀어진 소수가 가짜뉴스를 집단지성으로 눈속임한다 (in Korean)
  - 동아사이언스: 인터넷 공간 알고 보니 소수가 독점한 세상 (in Korean)
  - 조선비즈: 인터넷서 집단지성 축적될수록 여론조작 쉬워져 (in Korean)
  - 디지털타임스: 가짜뉴스는 왜 증폭될까...소수에 의한 독점 현상 규명 (in Korean)
  - 금강일보: [사이언스톡톡] 왜 가짜뉴스가 판칠까 (in Korean)
  - 아시아경제: 인터넷 집단지성, 빅데이터로 보니 소수 독점 우려 (in Korean)
  - 서울경제: 집단지성 형성과정의 비밀, 빅데이터로 풀어내다 (in Korean)

- 한국경제: 정보 틀어쥔 소수가 가짜뉴스를 집단지성으로 눈속임한다 (in Korean)
- 파이낸셜뉴스: 가짜뉴스+여론조작 빅 마우스 찾아냈다 (in Korean)
- 헬로디디: 집단지성 형성 비밀?...빅데이터로 풀다 (in Korean)
- 내외뉴스통신: KISTI, 빅데이터로 집단지성 형성과정의 비밀 풀어 (in Korean)
- e경제뉴스: 인터넷여론...집단지성인가 바보들의 행진인가 (in Korean)
- 뉴스웍스: 온라인 여론 소수가 쉽게 독점한다 (in Korean)
- UPI뉴스: 정보 가진 소수가 여론 독점하고 왜곡 (in Korean)
- 이웃집과학자: 위키백과 집단지성보다 소수독점 경향 ↑ (in Korean)
- IT NEWS: 정보 가진 소수가 여론 독점하고 왜곡 (in Korean)
- Intellectual interchanges in the history of the massive online open-editing encyclopedia, Wikipedia
  - APS Physics Focus: Wikipedia Articles Separate into Four Categories
  - The Washington Post: Wikipedia's social structures resemble a bureaucratic corporation, studies say
  - The Speaker: Wikipedia Vulnerabilities Explored In New Research
  - Asian Scientist: What The Editing History Of Wikipedia Reveals
  - Gizmodo: Wikipedia Is Basically a Corporate Bureaucracy, According to a New Study
  - Science Alert: Wikipedia is basically just another giant bureaucracy, study finds
  - Fudzilla: Wikipedia has become 20th century bureaucracy
  - Weekendavisen: Leksikalt kartel (in Danish)
  - Die Tageszeitung: Der aussterbende mnnliche Schwarm (in German)
  - Der Standard.: Wikipedia: Es droht das Ende der Schwarmintelligenz (in German)
  - Actualite Houssenia Writing: Wikipedia, juste une norme bureaucratie ? (in French)
  - Boa Informacao: Como a Wikipdia se tornou uma comunidade mais fechada, e como resolver isto (in Portuguese)
  - ギズモドジャパン (Gizmodo Japan): ウィキペディアは少のスパエディタが支配する官僚社 (in Japanese)
  - SG: Szomor jv vrhat a Wikipdira (in Hungarian)
  - Hankyoreh ScienceOn (한겨레 사이언스온): 위키백과 15년 문서 편집의 빅데이터 분석해보니... (in Korean)
  - Physics and High Technology (물리학과 첨단기술): 위키백과의 장기간 편집 기록 분석을 통한 위키백과 문서의 분류와 집단지성의 형성과정 (in Korean)
- Anatomy of Scientific Evolution
  - Physics Today: The Dayside : The psychohistory of scientific evolution