Yeokyung Hwang

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EDUCATION

Ph.D. Technology Management, Economics and Policy Program   *Sep 2023 – Present*
Seoul National University, Seoul, Korea

- Integrated Major of Smart City Global Convergence
- GPA: 4.2/4.3
- Advisor: Dr. Junseok Hwang

M.S. Technology Management, Economics and Policy Program   *Sep 2021 – Oct 2023*
Seoul National University, Seoul, Korea

- Integrated Major of Smart City Global Convergence
- GPA: 4.17/4.3

B.E. Mechanical & Aerospace Engineering Seoul National University, Seoul, Korea   *Mar 2017 – Oct 2021*

RESEARCH INTERESTS

Topics

- Computational social science
- Knowledge network
- Network science
- Socio-technical system
- Economic complexity

Methodologies

- Complex Network Analysis
- Patent Analysis
- Natural Language Processing & Text Analysis
- Representation Learning
- Econometric Analysis

PUBLICATIONS (*Corresponding Author, † Equally contributed)

Hwang Y., Hwang J., Lee J.M.* (2025) How similar should collaborators be in inter-organizational learning: Optimal cognitive proximity and knowledge complexity. *PLoS One*, 20(12): e0338402. https://doi.org/10.1371/journal.pone.0338402

Cha, H., **Hwang, Y.**, Hwang, J., & Lee, J.M.* (2026). Redefining the role of investors in South Korea's startup ecosystem: A network analysis and explainable AI approach. *Journal of Small Business Management*, 1–34. https://doi.org/10.1080/00472778.2025.2601681

WORKING PAPERS (*Corresponding Author, † Equally contributed)

Hwang, Y.[†], Jeon, E.[†], Balaci, A.T., Hwang, J., & Lee, J.H.* Who Invests Matters: A Multimodal Contrastive Learning Approach to Successful Startup–Investor Matching. *(Under Review, Information Processing & Management)*

Hwang, Y., Hwang, J., & Jeong, D.* The Conceptual Evolution of Artificial Intelligence: Structural and Semantic Dynamics Across Scientific and Social Domains.

Hwang, Y., Hwang, J., & Lee, J.M.[*] The Role of Actors in Mediating Niche-Regime Transitions in AI Socio-Technical Systems.

Hwang, Y., Hwang, J., & Lee, J.M.[*] How Actors Align Scientific and Social Conceptualizations of Artificial Intelligence.

Kim, K., Hwang, J., & **Hwang, Y.**[*] Core Technological Portfolio, Organizational Knowledge Network, and Innovation Performance: Semiconductor Industry Analysis.

Hwang, Y.[†], Moon, D.[†], & Lim, S.[†*] National AI Capability Beyond Scale: Portfolio Structure in Papers and Patents.

CONFERENCE PRESENTATIONS

Hwang, Y., Hwang, J., & Lee, J.M. (2025, June). *Socio-technical transition dynamics of AI technology: Utilizing news reports and academic papers*. Paper presented at the 34th IAMOT Conference, International Association for Management of Technology.

Hwang, Y., Hwang, J., & Jeong, D. (2025, May). *The evolution of scientific knowledge and social discourse: A multi-layer network analysis of AI technologies*. Paper presented at the 2025 KSOI & TEMEP Spring Conference.

Hwang, Y., Hwang, J., & Jeong, D. (2025, May). *The evolution of scientific knowledge and social discourse: A multi-layer network analysis of AI technologies*. Paper presented at the The 10th Atlanta Conference on Science and Innovation Policy.

Hwang, Y., Hwang, J., & Lee, J.M. (2024, August). *Collaborative learning and optimal cognitive proximity: Moderating effect of knowledge complexity*. Poster presented at SEED 2024.

Hwang, Y., Hwang, J., & Lee, J.M. (2024, October). *Socio-technical transition dynamics of AI technology: Utilizing news reports and academic papers*. Paper presented at the 2024 KSOI Fall Conference.

Hwang, Y., Hwang, J. & Lee, J.M. (2023, November). *Inter-organizational collaboration and optimal cognitive proximity: Moderating effect of knowledge complexity*. Paper presented at the 2023 IEEE International Conference on Technology Management, Operations and Decisions (ICTMOD).

Cha, H., **Hwang, Y.**, & Lee, J.M. (2023, October). *Redefining the role of investors for startup survival in the post-COVID era: A network analysis and explainable AI (XAI) approach*. Paper presented at the 2023 KSOI Fall Conference.

Hwang, Y., Lee, S., & Jeon, H. (2022, November). *Metaverse education model in smart city*. Paper presented at the Seoul Smart City Leaders Forum 2022.

Park, H., **Hwang, Y.**, & Kim, S. (2018, November). *Applying the theory of affordance to the design of water purification facilities: Focus on Binh Dinh, Vietnam*. Poster presented at Green Smart Development and Vision 2018.

Hwang, Y., Lee, G., & Kim, S. (2018, October). *2018 Summer SNU Corps in Vietnam: A case study of overseas volunteering program based on appropriate technology*. Paper presented at the International Conference on Energy and Sustainability.

AWARDS

Best Student Paper Award, 2025 34th IAMOT Conference (International Association for the Management of Technology)
  ○ Socio-technical Transitions in the AI Innovation Ecosystem: A Multi-layer Network Analysis of News and Academic Discourse

Best Paper Award, 2025 KSOI & TEMEP Spring Conference
  ○ The Evolution of Scientific Knowledge and Social Discourse: A Multi-layer Network Analysis of AI Technologies

Grand Prize, 13th Korean National Diplomatic Academy Academic Paper Award, 2024
  ○ Clustering-Based National AI Science & Tech Innovation Strategy

Best Paper Presentation Award, 2024 KSOI Fall Conference

- Socio-technical Transition Dynamics of AI Technology: Utilizing News Reports and Academic Papers

Best Paper Presentation Award, 2023 KSOI Fall Conference

- Redefining the Role of Investors for Startup Survival in the Post-COVID Era: A Network Analysis and Explainable AI (XAI) Approach

Seoul Mayor's Award, WeGO Smart City Champions 2022

- Metaverse Education Model in Smart City

Participation Award, 2019 SNU Social Contribution PLUS Idea Competition

Grand Prize in Product, 2017 Smart Social Contribution Idea Competition

PROJECTS

BK21 International Joint Research Project *Jan 2025 - Feb 2025*
From Tourism to Space: Smart Regional Transition Strategies in Central Florida

- Analyzed transition strategies of Central Florida from tourism-focused to space-driven smart economy.

BK21 International Joint Research Project *Jan 2024 - Feb 2024*
Research on Smart City Innovation Ecosystems and Global Demonstration of Smart Solutions

- Investigated global case studies of smart city solutions in innovation clusters

Social Contribution Project of Capacity-Building in the Tourism Sector in Lombok, Indonesia *May 2022 - Feb 2023*
Seoul National University Social Responsibility (SNUSR), Seoul, Korea

- Conducted in-depth field research for project planning
- Facilitated cross-cultural cooperation between Korea and Indonesia.
- Served as an advisor for the 2022 Winter SNU Corps program in Indonesia.

K-Lab Cooperation with Laos Support Project *Apr 2022 - Feb 2023*
Seoul National University Social Responsibility (SNUSR), Seoul, Korea
TIDE INSTITUTE, Seoul, Korea

- Designed curriculum and operational plans for an ICT-based digital capacity-building program in Laos
- Contributed to a 5-year capacity-building initiative supported by the National IT Industry Promotion Agency (NIPA).
- Provided planning, educational guidance, and on-site support.

Global Research Internship program *Jan 2020 - May 2020*
Polytechnique Montréal, Department of Mechanical Engineering, Montréal, QC

- Relevant Courses – Creative Engineering Design, Engineering Mathematics, Solid Mechanics, Dynamics, Introduction to Robotics

REFERENCES

Dr. Junseok Hwang

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Seoul National University, Republic of Korea
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Department of Public Policy and Management
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