DOEUN KIM

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EDUCATION

KDI School of Public Policy and Management **Jan. 2026-**
Master of Data Science for Public Policy and Management

Kangwon National University **Mar. 2022-Feb. 2026**
Department of AI Convergence
- Total GPA of 4.13 / 4.5, Major GPA of 4.24 / 4.5

PUBLICATIONS

Journal of Industrial Innovation **Dec. 2025**
- **Kim, D.** and Park, J. (2025, December). A Trend Analysis of AI Adoption using Large Language Model (LLM) Embedding Methods. Journal of Industrial Innovation, 41(4), 214-223.

KCC 2025 **Jul. 2025**
- **Kim, D.**, Park, S., Park, J. (2025, July). Complementary Co-Evolution of AI Innovation: Public-Private Collaboration Using Patent Embedding. Proceedings of the Korean Information Science Society Conference, 1,443 - 1,445.

IC2S2 2025 **Jul. 2025**
- **Kim, D.**, Park, S., Park, J. (2025, July). AI Innovation at the Crossroads: Complementarity Between Public and Private Sectors. In 11th International Conference on Computational Social Science IC2S2.

EMNLP 2024 **Nov. 2024**
- Koo, M., **Kim, D.**, Han, S., & Park, S. (2024, November). Platform-Invariant Topic Modeling via Contrastive Learning to Mitigate Platform-Induced Bias. In Findings of the Association for Computational Linguistics: EMNLP 2024 (pp. 11123-11139).

KSC 2023 **Dec. 2023**
- **Kim, D.**, Koo, M., Han, S., & Park, S. (2023). Research to Mitigate Platform-induced Topic Modeling Bias. Proceedings of the Korean Information Science Society Conference, 1520-1522.
- Ham, Y., Kim, Y., **Kim, D**., Koo, M., & Park, S. (2023). A Mental Disorder Prediction System Based on User Utterances Using KoBERT. Proceedings of the Korean Information Science Society Conference, 1517-1519.

AWARDS

2023 SW Talent Festival - Sponsor Company Award **Nov. 2023**
- Received the Sponsor Company Award (SK Telecom) in the SW Talent Festival Excellent Project Competition organized by the SW-centered University Council for developing an AI Mental Care Chatbot.

2023 Korean Software Congress (KSC 2023) **Feb. 2024**
- Awarded the Encouragement Prize in the Undergraduate Division for the paper titled "A Study on Reducing Platform-Induced Bias in Topic Modeling."

PROJECT EXPERIENCE

AI Innovation: Complementarity Between Public and Private Sectors
Jan. 2025 - Present

- Built AI innovation landscape using embedding techniques & semantic analysis; revealed distinct yet complementary roles of various innovation types
- Analyzed the interplay between government, government-funded, and private sector patents in AI innovation
- Findings provide empirical evidence for optimizing public funding allocation in national AI strategies

Between External Shocks and Birth Rates
Apr. 2025 - Present

- Analyzes COVID-19 impact on Korean birth rates via social media text analysis
- Tracks public perception changes re: childbirth pre/post-pandemic using semantic axis analysis (individual vs. societal level) & fine-tuned language models
- Reveals how external shocks reframe demographic narratives, offering real-time insights for policy response

Korean Labor Market Dynamics Analysis Using Embeddings
Jul. 2025 - Dec. 2025

- Built integrated employment database aggregating diverse Korean job market data sources
- Applied LLM embedding methods to trace labor market evolution and structural shifts in semantic space
- Offers framework for comprehensive overview of domestic labor market structure & landscape

Platform-Invariant Topic Modeling
Feb. 2023 - Apr. 2024

- Developed a novel algorithm to mitigate platform-specific biases when performing topic modeling across diverse social media sources (Twitter, Facebook, Reddit, etc.)
- Platform jargon extraction using c-TF-IDF for keyword extraction
- Encouragement Award at Korean Software Congress 2023 (Undergraduate Division); Research evolved into EMNLP 2024 Findings paper on enhanced multi-platform topic modeling methodology

Beyond AI: Text Mining and Topic Analysis Pipeline
Apr. 2024 - Jun. 2024

- Analyzed US patent database to identify recent AI diffusion patterns and cross-domain convergence trends in technological innovation
- Applied BERTopic modeling to extract and analyze emerging AI convergence themes, revealing key integration areas across industries
- Developed end-to-end pipeline from raw patent data preprocessing to topic-based insight generation, enabling systematic analysis of AI technology fusion and emerging innovation patterns

Development of a Mental Care Chatbot
Jun. 2023 - Jun. 2024

- Co-developed AI chatbot using KoBERT model to predict 12 mental disorders from user input and recommend appropriate psychological assessments
- Implemented c-TF-IDF algorithm to extract disorder-specific keywords, improving diagnostic accuracy and test recommendation relevance

Time Series Forecasting Using LLMs
Jul. 2024 - Nov. 2024

- Pioneered novel approach using ChatGPT API for time series prediction by treating numerical data as text input, exploring LLMs' untapped potential in forecasting tasks
- Applied zero-shot and few-shot learning strategies to sales volume forecasting, systematically comparing their effectiveness in capturing temporal patterns