

Jaehui Park

Department of Statistics
University of Seoul
163 Seoulsiripdae-ro, Dongdaemun-gu, Seoul 02504, Korea

Phone: +82-2-6490-2630
Fax: +82-2-6490-2629
Email: jaehui@uos.ac.kr

RESEARCH INTERESTS

Artificial Intelligence – Large Language Model, Vision-Language Models, Multi-modal Learning

Databases – Text-to-SQL, Vector Database, Graph Data Processing, Big Data

DB&AI Applications – Recommendation, Information Retrieval, Multimedia Similarity

Domain Data Analysis – Urban Data, Manufacturing Data

EDUCATION

- 2012 **Ph.D.**, Computer Science and Engineering, Seoul National University, Seoul, Korea
Dissertation: A Graph-based Framework for Processing Keyword Queries over Relational Databases (Advisor: Sang-goo Lee)
- 2008 **M.S.**, Computer Science and Engineering, Seoul National University, Seoul, Korea
- 2005 **B.S.**, Computer Science, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea

ACADEMIC AND RESEARCH EXPERIENCE

- Mar. 2022-present Associate Professor, University of Seoul
Vice Director of the Urban Science, Big Data and AI Research Institute
- Mar. 2020-Feb. 2022 Assistant Professor, University of Seoul
- Mar. 2018-Feb. 2020 Assistant Professor, Incheon National University
- Sep. 2012- Feb. 2018 Research Engineer, Electronics and Telecommunications Research Institute (ETRI)
- Mar.-Aug. 2012 Postdoctoral Fellow, Institute of Computer Technology, Seoul National University
- Dec. 2007-Feb. 2008 Research Intern, National Institute of Informatics, Tokyo, Japan

PROJECT HIGHLIGHTS

- 2024-present Principal Investigator, Development of a Korean Novel Analysis Language Model (LLM) funded by Ministry of SMEs and Startups, Korea
- 2024 Principal Investigator, Development of Retrieval-Augmented Generative Language Model Technology funded by Naver corp.

- | | |
|--------------|--|
| 2023-present | Principal Investigator, Research on Efficient Selection of Associated Information Based on Long-Term Memory funded by Electronics and Telecommunication Research Institute |
| 2018-2022 | Principal Investigator, Research on Multimodal Deep Learning through External Knowledge Base Transfer, Ministry of Science and ICT, Korea |

PUBLICATIONS

REFEREED JOURNALS

1. Hanbit Lee, Jinseok Seol, Sang-goo Lee, **Jaehui Park** and Junho Shim. 2024. Contrastive Learning for Unsupervised Image-to-Image Translation. *Applied Soft Computing*, Volume 151, pp. 27609-27619
2. Hanbit Lee, Sang-goo Lee, **Jaehui Park** and Junho Shim. 2023. Improving Complex Scene Generation by Enhancing Multi-Scale Representations of GAN Discriminators. *IEEE ACCESS*, Volume 11, pp. 43067-43079
3. Soyun Shin, **Jaehui Park** and Moonwook Ryu. 2023. Integrating Heterogeneous Graphs Using Graph Transformer Encoder for Solving Math Word Problems. *IEEE ACCESS*, Volume 11, pp. 27609-27619
4. Yeonchan Ahn, Sang-goo Lee, Junho Shim and **Jaehui Park**. 2022. Retrieval-Augmented Response Generation for Knowledge-Grounded Conversation in the Wild. *IEEE ACCESS*, Volume 10, pp. 131374-131385
5. Yeonchan Ahn, Sang-goo Lee and **Jaehui Park**. 2020. Exploiting Text Matching Techniques for Knowledge-Grounded Conversation. *IEEE ACCESS*, Volume 8, pp. 126201-126214
6. Jae-won Lee and **Jaehui Park**. 2019. An Approach to Constructing a Knowledge Graph Based on Korean Open-Government Data. *Applied Sciences*, Volume 9(19), pp. 4095-4107
7. **Jaehui Park**. 2019. Selectively Connected Self-Attentions for Semantic Role Labeling. *Applied Sciences*, Volume 9(8), pp. 1716-1731
8. **Jaehui Park** and Sang-goo Lee. 2016. Finding Top-k Answers in Node Proximity Search using Distribution State Transition Graph. *ETRI Journal (ETRIJ)*, Volume 38(4), pp. 714-723
9. **Jaehui Park** and Sang-goo Lee. 2014. A Graph-theoretic Approach to Optimize Keyword Queries in Relational Databases. *Knowledge and Information Systems (KAIS)*, Volume 41(3), pp. 843-870
10. **Jaehui Park** and Sang-goo Lee. 2013. Correlation-based Ranking over Relational Databases. *INFORMATION-An International Interdisciplinary Journal*, Volume 16, Issue 6(B), pp. 4175-4191
11. **Jaehui Park** and Sang-goo Lee. 2013. Pragmatic Correlation Analysis for Probabilistic Ranking over Relational Data. *Expert Systems with Applications (ESWA)*, Volume 40(7), pp. 2649-2658
12. Dongjoo Lee, **Jaehui Park**, Junho Shim and Sang-goo Lee. 2011. Efficient Filtering Techniques for Cosine Similarity Joins, *INFORMATION-An International Interdisciplinary Journal*, Volume 14, pp. 1265-1276
13. **Jaehui Park** and Sang-goo Lee. 2011. Keyword Search in Relational Databases, *Knowledge and Information Systems (KAIS)*, Volume 26(2), pp. 175-193

REFEREED CONFERENCES

14. Hyesu Hwang, Daeun Kim, **Jaehui Park** and Yongjin Kwon. 2024. Bridging the Lexical Gap: Generative Text-to-Image Retrieval for Parts-of-Speech Imbalance in Vision-Language Models. Proceedings of the 2nd International Workshop on Deep Multimodal Generation and Retrieval (MMGR'24), pp. 22-33
15. **Jaehui Park** and Su-young Chi. 2015. A Requirement for Traceability of Production Logs in Large-scale Shop Floor Data. Proceedings of the International Conference on Big Data Applications and Services (BigDas'15), pp. 128-132
16. **Jaehui Park** and Su-young Chi. 2015. An Approach to Highly Available and Extensible Data Management Systems for Large Scale Factory Floor Data. Proceedings of the International Conference on Data Analytics (DATAANALYTICS'15), pp. 74-77
17. **Jaehui Park** and Sang-goo Lee. 2014. Efficiently Processing of Top-k Typicality Query for Structured Data. Proceedings of the International Conference on Database Management Systems (DMS'14), pp. 391-401
18. **Jaehui Park** and Yunkyung Park. 2013. Social Interaction Propensity Model using Information Entropy. Proceedings of the International Conference on Social Computing and Its Applications (SCA'13), pp. 283-289
19. Jongheum Yeon, Dongjoo Lee, **Jaehui Park**, Sang-goo Lee. 2012. A Framework for Sentiment Analysis on Smartphone Application Stores. Proceedings of the International Conference on Advanced Information Technology and Sensor Application (ATIS'12), pp. 1-12
20. **Jaehui Park** and Sang-goo Lee. 2011. Exploiting correlation to rank database query results. In Proceedings of the International Conference on Database Systems for Advanced Applications (DASFAA'11), pp. 296-305
21. **Jaehui Park** and Sang-goo Lee. 2010. Ranking objects based on attribute value correlation. In Proceedings of the International Conference on Database and Expert Systems Applications (DEXA'10), pp. 346-359
22. **Jaehui Park** and Sang-goo Lee. 2010. Probabilistic ranking for relational databases based on correlations. In Proceedings of the workshop on Ph.D. students in Information and Knowledge Management (PIKM '10), pp. 79-82
23. Dongjoo Lee, **Jaehui Park**, Junho Shim and Sang-goo Lee. 2010. An Efficient Similarity Join Algorithm with Cosine Similarity Predicate. In Proceedings of the International Conference on Database and Expert Systems Applications (DEXA'10), pp. 422-436
24. **Jaehui Park** and Sang-goo Lee. 2009. Approximating Retrieval Unit for Un-structured Querying in Relational Databases, In Proceedings of the International Conference on Emerging Databases (EDB'09), pp. 423-430
25. **Jaehui Park**, Tomohiro Fukuhara, Ikki Ohmukai, Hideaki Takeda and Sang-goo Lee. 2008. Web content summarization using social bookmarks: a new approach for social summarization. In Proceeding of the workshop on Web Information and Data Management (WIDM '08), pp. 103-110

26. **Jaehui Park**, Sang-goo Lee and Jonghoon Chun. 2007. A Wiki-System with Integrity Support for Structured Data, In Proceedings of the International Conference on Information Society (ICIS'07), pp. 378-383
27. **Jaehui Park**, Tomohiro Fukuhara and Hideaki Takeda. 2008. Web Content Summarization Using Social Bookmarking Service, NII Technical Report, pp. 1-7