Jisoo Jang

Ph.D. Candidate

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Education

2022–present   **Ph.D. Candidate in Data Science**, *Graduate School of Data Science, Seoul National University*, Seoul.
Large Language Models (LLMs) and Context Engineering, LLM-Driven Natural Language Interfaces for Databases, Natural Langauge to Structured Query Language (NL2SQL)

2020–2021 :   **Master in Data Science**, *Graduate School of Data Science, Seoul National University*, Seoul.

2010–2018 :   **BA in Economics & Finance**, *College of Economics and Finance, Hanyang University*, Seoul.

Publications

In Conference Proceedings

2025   Jisoo Jang and Wen-Syan Li. Retrieval-augmented nl2sql generation with data-centric query capsules for enterprise applications. In *Proceedings of the 2025 Annual International ACM SIGIR Conference on Research and Development in Information Retrieval in the Asia Pacific Region*, pages 123–132, 2025.

2024   Jisoo Jang and Wen-Syan Li. Au-rag: agent-based universal retrieval augmented generation. In *Proceedings of the 2024 Annual International ACM SIGIR Conference on Research and Development in Information Retrieval in the Asia Pacific Region*, pages 2–11, 2024.

2023   Jisoo Jang, Mina Kim, Tien-Cuong Bui, and Wen-Syan Li. Toward interpretable machine learning: Constructing polynomial models based on feature interaction trees. In *Pacific-Asia Conference on Knowledge Discovery and Data Mining*, pages 159–170. Springer, 2023.

In Conference Proceedings(Accepted)

2026   Joohyun Lee, Ghita Benboubker, JungKwan Han, Jisoo Jang, and Wen-Syan Li, Pathfinder: Context Engineering and Knowledge Management for Domain-Specific Horizontal Reasoning, 42nd IEEE International Conference on Data Engineering (Demo Track).

arXiv

2025   Jisoo Jang, Tien-Cuong Bui, Yunjun Choi, and Wen-Syan Li. Prompt tuning for natural language to sql with embedding fine-tuning and rag. *arXiv preprint arXiv:2511.08245*, 2025.

Projects

2024.11 – 2025.01 (3M)   ***Financial Q&A Chatbot Based on Financial Reports***.
- Building a financial Q&A chatbot based on financial reports in collaboration between SNU KDT and Naver Cloud
- Led a team by helping define the problem, design experiments, and manage the project through weekly meetings
- Explained concepts of LLM and RAG, and guided system architecture design by applying the LLM Compiler paper

2021.04 – 2021.06 (2M)	***Metric for Deep Learning Visualization Technique***. ○ Proposed I-metric, a metric to evaluate neuron visualization as part of Explainable AI techniques ○ Conducted experiments to verify whether an additional tool (grid-spec activation camera) improves evaluation ○ Achieved a 28% improvement over baseline visualization when using the additional tool — paper link ○ Role: Implemented the grid-spec activation camera
2020.11 – 2021.11 (12M)	***Improving Cleanness of Dishwasher***. ○ A project with SK Networks to improve dishwasher cleaning performance using pattern clustering on turbidity sensor data
2020.10 - 2021.02 (5M)	***Battery Life Expectation***. ○ Predicted the remaining battery life of a logistics container tracking device by solving it as a regression problem for voltage values

Awards

2025.10	SIGIR Student Travel Grant Award
2024.10	SIGIR Student Travel Grant Award
2023.08	The 11th Ministry of Trade, Industry, and Energy Public Data Utilization BI Contest - 3rd prize in the "Public Domain" Area

Lectures

2024.08	A Guide to Building LLM-Based Applications: Prompt Engineering and RAG. @ Jeonju IT & CT Industry Promotion Agency
2022.07	Introduction to DeepLearning with PyTorch. @ University of Seoul
2021.07	Python & PyTorch Basic. @ HanKyong University
2019.12	Introduction to DeepLearning with PyTorch. @ Multicampus

Teaching Assistantship

Fall, 2022 – Present	M3239.006700: Project for Data Science, GSDS, SNU.
Fall, 2023 – Spring, 2025	M3239.002300: Prompt Engineering: Art and Science for Interactions with LLM, GSDS, SNU.
Fall, 2022 – Spring, 2023	M3239.005100: Big Data and Knowledge Management Systems 2, GSDS, SNU.

Publication (Book)

2019.06	PyTorch for Deep Learning

Work Experience

2018.02 - 2019.08 (18M)	***Boostcourse AI***, *Naver Connect*, Seoul. ○ Publishing AI-related content on edwith (changed to boostcourse) platform to make it easier for learners to study – Professor KyungHyun Cho's course: Natural Language Processing with Deep Learning – Professor Andrew Ng's Deep Learning series: 1, 2, 3, 4 ○ Planning and managing project-based learning content – Assisted in planning and managing the course Deep Learning for Everyone Season 2 – Planned, set up the learning environment, and reviewed code for "Introduction to Deep Learning with TensorFlow and PyTorch"

Position of Responsibility

2025	Volunteer for conference, SIGIR-AP 2025.
2024	Student Helper to manage the in-person part, PAKDD 2024 Robust Machine Learning in Open Environments Workshop.

Interests

Attendances for Learning New Knowledge

2025.12	Attend the 3rd International ACM SIGIR Conference on Information Retrieval in the Asia Pacific, Xi'an, China
2025.08	Attend Agentic AI Summit 2025 in UC Berkeley, California, USA
2024.12	Attend the 2nd International ACM SIGIR Conference on Information Retrieval in the Asia Pacific, Tokyo, Japan
2024.05	Attend the 28th Pacific-Asia Conference on Knowledge Discovery and Data Mining, Taipei, Taiwan
2023.05	Attend the 27th Pacific-Asia Conference on Knowledge Discovery and Data Mining, Osaka, Japan
2022.12	Attend 2022 IEEE International Conference on Big Data, Tokyo, Japan
2018.08	Attend Pycon-Korea 2018, Seoul, Korea
2018.01	Participate "Deep Learning Basic with Pytorch" Class @ FastCampus, Seoul, Korea
2017.10	Participate "Text Mining using Python" Class @ FastCampus, Seoul, Korea
2017.08	Attend Pycon-Korea 2017, Seoul, Korea
2017.05	Learned ML @ FastCampus Data Science School, Seoul, Korea

Participate or Running A Study Group

2022.11 (3M)	Head first Rust! @ Modulabs
2020.05 (3M)	Participate Beyond BERT @ Modulabs: reviewed Fast-BERT
2018.08 (9M)	Ran a paper study with Yonsei University Master course students (Learning NLP) Drive Link