JIWOO SEO

Ph.D. Student and Graduate Assistant
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RESEARCH INTERESTS

Ontology, Natural Language Processing(NLP), Explainable AI, AI Literacy, Human-AI Collaboration, Digital Humanities

EDUCATION

Florida State University   **Tallahassee, United States**
Ph.D. in Information   Jun. 2025 – Present
- GPA: 4.0/4.0

Chung-Ang University (CAU)   **Seoul, Korea**
MBA in Management Information Systems   Mar. 2023 – Aug. 2025
- GPA: 4.4/4.5 (Top of the Class, Spring & Fall 2023)

Korea Advanced Institute of Science and Technology (KAIST)   **Daejeon, Korea**
M.Eng. in Computing (Concentration: Web Science and Technology)   Mar. 2014 – Feb. 2016
- GPA: 3.5/4.3

University of Technology of Troyes (UTT)   **Troyes, France**
Exchange Student, Department of Information Systems   Jan. 2015 – Jun. 2015

Ewha Womans[sic] University   **Seoul, Korea**
B.A. in Library & Information Science (minor: Computer Engineering)   Mar. 2008 – Aug. 2013
- GPA: 3.7/4.3 (Dean's List, Spring & Fall 2011)

Nanyang Technological University (NTU)   **Singapore**
Exchange Student, Department of Computer Science   Jul. 2012 – Dec. 2012

RESEARCH EXPERIENCE

Korea Education and Research Information Service (KERIS)   **Remote**
Researcher (Affiliated with Chung-Ang University)   Apr. 2024 – Oct. 2024
Project: "Research on University Library AI Literacy Curriculum Development"
- Developed standard AI literacy curricula, including "How to utilize Generative AI", "Introduction to Data Analysis Using Python", and "How to Write Academic Papers in Science and Engineering".
- Co-author a research report titled, "AI Literacy Curricula Development" with team members.

KAIST Culture Technology Institute   **Daejeon, Korea**
Graduate Student Researcher (Advisor: Prof. Jungwha Kim)   Dec. 2014 – Feb. 2016
Project: "K-Culture Time Machine"
- Devised and validated an ontology-based Korean Culture Heritage Data Model (KCHDM) to manage cultural heritage databases.
- Integrated and enhanced metadata of the Cultural Heritage Administration, Encyclopedia of Korean Culture, and the National Museum of Korea's 'E-museum' into the KCHDM.
- Applied KCHDM to an AR-based mobile app describing historical locations through temporal and spatial contexts; registered KCHDM as a standard with the Telecommunications Technology Association (*TTAK.KO-10.0850*).
- Authored a Master's Short Thesis detailing KCHDM model development (link).

KAIST Semantic Web Research Center   **Daejeon, Korea**
Graduate Student Researcher (Advisor: Prof. Keysun Choi)   Mar. 2014 – Dec. 2014
Project 1: "LOD (Linked Open Data) 2 – Korean DBpedia"
- Researched "Question & Answering (QA)" and "Knowledge-based" systems such as ontology mapping to integrate DBpedia with FrameNet, considering DBpedia's hierarchical structures and FrameNet's semantic frame structures.

- Led the LOD2 Korean DBpedia project, publishing conference papers and establishing a standard format to convert unstructured text into structured Resource Description Framework (RDF) triples (subjects, properties, and objects).

Project 2: "Exobrain – Korean NLP2RDF"
- Built an ontology-based Korean NLP2RDF framework to convert Wikipedia info-box data into RDF triples format.
- Combined morphological analysis, phrase syntax information, Named Entity Recognition (NER), and dependency structures to the framework, aligned with the international standard NLP Interchange Format (NIF).
- Resolved functional issues in the Korean NLP2RDF framework, specifically addressing the need for word segments due to the unique morphological characteristics of the Korean language.
- Published conference papers; registered a patent in Korea and the U.S. under the Patent Cooperation Treaty (PCT).

PROFESSIONAL EXPERIENCE

Chung-Ang University Central Library   **Seoul, Korea**
AI Specialist Librarian   Feb. 2021 – Apr. 2025
- Design and create a website guiding users on generative AI including guidelines, educational videos, and trends.
- Deliver three digital literacy lectures in a hybrid format, including "How to Use Generative AI Chatbot", "How to Write Academic Papers in Science and Engineering", and "Academic Database Utilization".
- Coordinate and execute the "CAU ChatGPT Prompt Engineering Competition" and AI-related seminars.
- Organize research performance data, recommend tailored information through the Research Support System (RSS), and analyze and report on AI research trends for the Department of Engineering faculty.

LG Electronics Chief Technology Officer (CTO) AI Lab   **Seoul, Korea**
Senior Researcher   Jul. 2017 – Jul. 2019
Projects: 1) Marriott Hotel Concierge WebOS Smart TV Voice Assistant (English)   03/2019-07/2019
     2) LG WebOS Smart TV Voice Assistant 'DeepThinQ' (Japanese)   06/2018-07/2019
     3) Incheon Airport & PyeongChang Olympic Guide Robot Voice Assistant (Japanese) 01/2018-09/2018
     4) LG Mobile Voice Assistant 'Q-Voice' (Korean)   01/2018-05/2018
- Constructed NER models of TV program guides, road navigation, schedule alert functions, etc. for each NLP project in Korean, English, and Japanese.
- Formulated NER rules using regular expressions and trained NER models with the Support Vector Machine (SVM).
- Oversaw NLP projects in communication with native English- and Japanese-speaking researchers.
- Achieved ~99% accuracy in closed tests and ~85% in open domain tests for projects 2) and 3).
- Conducted Quality Assurance (QA) testing before product launches and resolved post-launch customer issues.
- Registered patents in South Korea and the U.S. under PCT for unifying and improving NLP models.

Lotte Innovate IT Lab   **Seoul, Korea**
Researcher, "Lotte IBM AI Consulting"   Jun. 2016 – Jun. 2017
- Implemented a pilot hotel concierge chatbot guiding room services, hotel facilities, etc. using IBM Watson APIs such as Conversation and Visual Recognition; successfully completed the 2016 IBM Watson Hackathon.
- Designed AI-based trend prediction system architecture 'Lotte Confectionery Intelligence Advisor (LCIA)' for new product development using IBM Watson Explorer; systemized requirements by communicating with LC marketers.
- Categorized product properties to 8; applied social media text mining/analysis models to predict future food trends.
- Contributed to transforming the new product development process from a top-down to a big data-driven approach, improving decision-making efficiency.
- Co-developed an AI-based shopping advisor chatbot 'Lotte Shopping Advisor (LOSA)' for Lotte Department Store using IBM Watson's deep learning recommendation engine, conversation, and visual recognition APIs.

TEACHING EXPERIENCE

Florida State University   **Tallahassee, United States**
Graduate Assistant   Jun. 2025 – Present
- Teaching Assistant for IT Project, Extensible Enterprise Solution (Fall 2025)   08/2025-12/2025

Chung-Ang University Central Library   **Seoul, Korea**
Special Lecturer in Digital Literacy (on/offline)   Jun. 2021 – Apr. 2025
"How to Use Generative AI Chatbot"   04/2023-04/2025
- Teach AI history, NLP basics, AI language model features, AI Ethics, and Generative AI platforms including ChatGPT, Bing Copilot, Gemini, and Clova X.

"How to Write Academic Papers in Science and Engineering"   03/2022-04/2025
- Teach thesis *vs.* journal papers, research ethics, and the academic paper writing process from ideation to conclusion.

"Academic Database Utilization"   06/2021-04/2025
- Teach scholarly paper search and database utilization skills including Web of Science and Scopus.

INDEPENDENT PUBLICATIONS

"A Librarian's Case Study of Generative AI in Libraries", *Yearbook of University Library Association*, Jul. 2024.

"Education and Cases of Generative AI Utilization Chung-Ang University", *Journal of Korean Medical Library Association*, Vol. 50, No. 1_2, pp. 65-73, Dec. 2023. https://doi.org/10.69528/jkmla.2023.50.1_2.65

"Chung-Ang University Generative AI Use Education and Cases", Yearbook of University Library Association, Jul. 2023.

"Verification and Improvement of Ontology Model for Cultural Heritage Management", *Master's Short Thesis*, Feb.2016.

JOURNAL PUBLICATIONS

Jung, J.H., Lee, J.W. & **Seo, J.W.**, "A Research on the Development of a Digital Literacy Curriculum for University Libraries", Journal of Korean Library and Information Science Society, 56(2), 275-295, Jun. 2025. https://doi.org/10.16981/kliss.56.2.202506.275

CONFERENCE PUBLICATIONS

Seo, J.W., Hahm, Y.G. & Choi, K.S., "Semantic-Frame Granularity Refinement for QA system", *The 41st Korean Computer Congress Winter Conference*, Nov. 2014.

Hahm, Y.G., **Seo, J.W.**, Hwang, D.S., et al, "DBpedia Ontology Population Coverage Enhancement with FrameNet", *Proceedings of the 26th Annual Conference on Human and Cognitive Language Technology*, Oct. 2014 (**Best Paper**).

Seo, J.W., Won, Y.S., Kim, J.W., Hahm, Y.G. & Choi, K.S., "NLP Interchange Format (NIF) Application for Korean Natural Language Processing", *Proceedings of the 26th Annual Conference on Human and Cognitive Language Technology*, Oct. 2014.

Won, Y.S., **Seo, J.W.**, Kim, J.G., et al, "Korean NLP2RDF Framework", *Proceedings of the 26th Annual Conference on Human and Cognitive Language Technology*, Oct. 2014.

Hahm, Y.G., Kim, Y.S., Won, Y.S., Woo, J.S., **Seo, J.W.**, et al, "Toward Matching the Relation Instantiation from DBpedia Ontology to Wikipedia Text: Fusing FrameNet to Korean", *SEM 2014: Proceedings of the 10th International Conference on Semantic Systems*, Sep. 2014. https://doi.org/10.1145/2660517.2660534

PRESENTATIONS

"Education and Cases of Academic Information Use at Chung-Ang University", *Seminar on Using RISS and University Licenses*, Mar. 2024. https://youtu.be/IR0i03FmAWM?si=9yxQGq4MwnBBTJl7

"Education and Cases of Generative AI Use at Chung-Ang University", *University Library Practitioner Seminar*, Nov. 2023 and *Korean Medical Library Association Fall Academic Conference*, Oct. 2023.

"Cases of Generative AI Application at Chung-Ang University", *Practitioner Workshop for Private University Library Association*, Jul. 2023.

PATENTS

Seo, J.W. & Chae, J.H., "Speech Recognition of Named Entities with Word Embeddings to Display Relationship Information", LG Electronics, 2022 (US11232785B2).

Chae, J.H. & **Seo, J.W.**, "Artificial Intelligence Device Generating Named Entity Table and Method for Same", LG Electronics, 2021 (KR20190107617A, WO2021040105A1).

Choi, K.S., Hahm, Y.G., & **Seo, J.W.**, "Knowledge Representation Expansion Method and Apparatus", KAIST, 2015 (KR101685053B1, WO2016117920A1, US20180144049A1).

AWARDS & SCHOLARSHIPS

School of Information General Development Fund Scholarship, Florida State University	Fall 2025, Spring 2026
Research Project Award, Korean Council for University Education	Jan. 2025
Academic Excellence Scholarship, Chung-Ang University	Spring 2023, Fall 2023
Outstanding Progress Award, LG Electronics Software Training Program for new employees	Dec. 2017
Korean Government Scholarship, KAIST (fully funded)	Mar. 2014 – Feb. 2016
Best Paper Award, The 26th Annual Conference on Human and Cognitive Language Technology	Nov. 2014
Academic Excellence Scholarship, Ewha Womans University	Spring 2011, Fall 2011

EXTRACURRICULAR ACTIVITIES

UTT Language Exchange Group 'Tandem' (Korean, French, and Chinese)	Mar. 2015 – June 2015
NTU Korean Language Education Volunteer Group	Sep. 2012 – Dec. 2012
Seoul University Association Reading and Discussion Group	Mar. 2011 – Dec. 2011
Middle School Tutor, Seoul Seodaemun Community Self-sufficiency Center	Mar. 2012 – Jun. 2012
Volunteer, Ewha Womans University Center for Child Development and Disability	Sep. 2011 – Dec. 2011

PROFICIENCY IN SKILLS

Programming: Python, R (intermediate), SQL, Java (basic)
Languages: Korean (native), English (advanced, IELTS 7.0), French (elementary, DELF A2)