

Jiho Noh

Curriculum Vitae – updated Apr 15, 2026

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RESEARCH INTERESTS

- **Intelligent search** – Methodology of data mining and interactive information retrieval, leveraging a range of advanced machine learning and reasoning technologies.
- **Natural Language Processing** – Language technologies for information extraction, conversational systems, question-answering. NLP applications in multidisciplinary domains including STEM Education and Business Intelligence.
- **Machine Learning** – Advanced deep learning techniques, especially in the context of representation learning for knowledge discovery.
- **Health Informatics** – Biomedical information retrieval, clinical text mining, and knowledge graph construction.

EDUCATION

- 2021 Ph.D. in Computer Science and Biomedical Informatics
University of Kentucky, KY, USA
Dissertation: *“Neural Representations of Concepts and Texts for Biomedical Information Retrieval”*
- 2013 B.S. in Computer Science and Mathematics
Indiana University at Bloomington, IN, USA
– Mathematics Minor, Specialized in Artificial Intelligence,
– Graduated with *Highly Distinguished Honor* (< 2%)

ACADEMIC APPOINTMENTS

Kennesaw State University, Kennesaw & Marietta, GA

- 2021– *Assistant Professor*
Cognition and Learning Design Lab
Department of Computer Science,
College of Computing and Software Engineering

University of Kentucky, Lexington, KY

- 2020–21 *Research Assistant* under Dr. Ramakanth Kavuluru
Project: *Neural Representation for Biomedical Knowledge*
- 2019–20 *Lecturer*, CS 275: Discrete Mathematics
- 2015–17 *Research Assistant* under Dr. Raphael Finkel
Project: *Kratylos — Unified linguistic corpora from diverse data sources*

GRANTS & FUNDING

Funded

> External

- 2025.03 Interpretable Traits in Divergent Thinking for Measuring Creativity Using Large Language Models (\$5,000), Lambda Ltd. (Private)

2024.09 Investigating Opioid Misuse through AI/ML to Identify New Opportunities and Gaps to Combat the Opioid Crisis in Northwest Georgia/Southern Appalachia (\$150,000), NIH-AIMAHEAD (Federal)

> **Kennesaw State University (Internal)**

2025.04 Sponsored Research: Development of Automated Discourse Analysis System for Science Education (\$8,000), Kennesaw State University (Apr 1, 2025–Jun 1, 2025)

2024.04 KSU SEED Grant (\$10,000), Kennesaw State University

2024.03 Summer Research (\$5,000), College of Architecture and Construction Management

2023.05 Summer Research Fellow (\$10,000), Kennesaw State University

Under Review

2026.01 Emerging Artificial Intelligence-Induced Risks in Highway Construction Quality Assurance (\$500,000), National Academy of Sciences (Federal)

2026.01 New to IUOE: EHR DCL: Enhancing Undergraduate Construction Management Learning through Human–AI Reasoning with Large Language Models (\$400,000), National Science Foundation (Federal)

2025.10 STEMSocratic: An AI-Enhanced Tool Using Socratic Questioning to Supplement and Improve STEM Education (\$745,555), NSF-RITEL (Federal)

2025.10 Collaborative Research: Transforming Construction Education with Generative AI Integrated with Interactive, Adaptive, and Role-Responsive VR Learning Environments (\$250,000), National Science Foundation (Federal)

2025.10 Enhancing GDOT’s Cost Estimation through LLM-Based Iterative Reasoning and Evaluation in the Plan Development Process (\$240,000), Georgia Department of Transportation (State)

Submitted (Not Funded)

2025.07 STEMSocratic: Advanced AI-Driven Socratic Assessment for STEM (\$749,933), NSF-IUOE (Federal)

2025.03 IGE: Track 1: Innovating a Computer Science Graduate Program with a Personalized Project Designer (PPD) System (\$499,900), National Science Foundation (Federal)

2025.01 AI for Equity: Developing an AI Lesson Creator for Critical Teaching of Asian American Studies in Elementary Classrooms (\$599,963), William T. Grant Foundation (Private)

2025.01 Enhancing Student Engagement through AI-Powered Adaptive Questioning System (A2QS) in Online Undergraduate STEM Education (\$399,913), National Science Foundation (Federal)

2022.09 CRII: III: Generating Clarifying Questions in Conversational Search Using Graph Representation Learning in the Hyperbolic Spaces (\$174,753), National Science Foundation (Federal)

PUBLICATIONS

Journals

1. Atay, Zeynep, Aaron Morrisett, Jiho Noh, Amanda Anderson, and Jae Hoon Lee. “Emerging Mental Health Challenges in Construction Industry through Web Crawling.” *Journal of Engineering, Project, and Production Management* (2025).
2. Kavuluru, Ramakanth, Jiho Noh, and Shyanika W. Rose. “Twitter discourse on nicotine as potential prophylactic or therapeutic for COVID-19.” *International Journal of Drug Policy* 99 (2022): 103470.

3. Noh, Jiho, and Ramakanth Kavuluru. "Improved biomedical word embeddings in the transformer era." *Journal of Biomedical Informatics* 120 (2021): 103867.

Conferences

1. Ming, Nong, Sachin Sharma, and Jiho Noh. "YouLeQD: Decoding the Cognitive Complexity of Questions and Engagement in Online Educational Videos from Learners' Perspectives." IEEE International Conference on Semantic Computing (ICSC). 2025.
2. Sharma, Sachin, Jiho Noh, and Michael S. Alexiou. "Investigating the Transferability and Robustness of Adversarial Attacks Between Standard and Dilated CNN Architectures." International Conference on Advanced Information Networking and Applications (AINA). 2025.
3. Sharma, Sachin, Jiho Noh, and Michael S. Alexiou. "Correction to: Investigating the Transferability and Robustness of Adversarial Attacks Between Standard and Dilated CNN Architectures." International Conference on Advanced Information Networking and Applications (AINA). 2025.
4. Adatrao, Naga Sai Krishna, Gowtham Reddy Gadireddy, and Jiho Noh. "A Survey on Conversational Search and Applications in Biomedicine." *Proceedings of the ACMSE 2022 Conference*. 2023.
5. Tong C, Noh J, Cranfill L, Morris J, and Son J. "Improving Fashion Attribute Classification Accuracy with Limited Labeled Data Using Transfer Learning." In 2022 21th IEEE International Conference on Machine Learning and Applications (ICMLA) 2022. IEEE.
6. Noh, Jiho, and Ramakanth Kavuluru. "Joint learning for biomedical NER and entity normalization: encoding schemes, counterfactual examples, and zero-shot evaluation." *Proceedings of the 12th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics*. 2021 Aug.
7. Noh, Jiho. "Joint learning for biomedical NER and entity normalization." Annual Symposium of The 21st Korean Computer Scientists and Engineers Association in America (KOCSEA) — *Poster*, Las Vegas, 2021 Nov.
8. Noh, Jiho, and Ramakanth Kavuluru. "Literature Retrieval for Precision Medicine using Neural Matching and Faceted Summarization." *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP)*. 2020 Nov.
9. Noh, Jiho, and Ramakanth Kavuluru. "Document Reranking for Precision Medicine with Neural Matching and Faceted Summarization." *Findings of the Association for Computational Linguistics: EMNLP 2020*. 2020 Nov.
10. Noh J, Kavuluru R. Document Retrieval for Biomedical Question Answering with Neural Sentence Matching. In 2018 17th IEEE International Conference on Machine Learning and Applications (ICMLA) 2018 Dec 17 (pp. 194-201). IEEE.
11. Noh J, Kavuluru R. Team UKNLP at TREC 2017 Precision Medicine Track: A Knowledge-Based IR System with Tuned Query-Time Boosting. In TREC 2017.

Preprints

1. Noh, Jiho, Mukhesh Raghava Katragadda, and Daesoo Lee. "Automated Domain Question Mapping (DQM) with Educational Learning Materials." arXiv preprint arXiv:2601.07062 (2026).
2. Adatrao, Naga Sai Krishna, Gowtham Reddy Gadireddy, and Jiho Noh. "A Survey on Conversational Search and Applications in Biomedicine." arXiv preprint arXiv:2211.15328 (2022).

RESEARCH MENTORSHIP

Thesis/Dissertation Advisor

Year indicates start term.

- 2026.Sp *Raymond Carl*, MS-CS student, Kennesaw State University (**Chair**)
Thesis: "Dynamic Reward Agents for Large Language Model Reinforcement Learning"
- 2026.Sp *Nguyen Thi Binh Nguyen*, PhD student, Kennesaw State University (Committee Member)
Dissertation: "Using Logic to Explain and Formally Verify the Behavior of ReLU Neural Networks"
- 2026.Sp *Dinesh Chowdary Attota*, PhD student, Kennesaw State University (Committee Member)
Dissertation: "AgentSearch: Learning Efficient Agentic Workflows via Deliberative Tree Search"
- 2025.F *Phillip Gregory*, MS-AI student, Kennesaw State University (**Chair**)
Thesis: "Advancing Automated Creativity Assessment: Leveraging LLM for Measuring Divergent Thinking in STEM Education"
- 2025.F *Regan Christopher*, PhD student, Kennesaw State University (Committee Member)
Dissertation: TBD
- 2025.F *Shawn Ismail*, MS-CS student, Kennesaw State University (Committee Member)
Thesis: "Probing Representational Emergence in Large Language Models"
- 2025.Sp *Mourya Teja Kunuku*, PhD student, Kennesaw State University (Committee Member)
Dissertation: "Multimodal AI for Interactive Tutoring and Cognitive Assessment in Online Education"
- 2023.F *Darlington O. Omoifo*, MSCS student, Kennesaw State University (Committee Member)
Thesis: "Effectively Deploying Large Language Models on Edge Devices"
- 2023.F *Burak Kure*, MSCS student, Kennesaw State University (Committee Member)
Thesis: "Enhancing Texture Analysis using Deep Learning"
- 2023.F *Inchan Hwang*, PhD student, Kennesaw State University (Committee Member)
Thesis: "Improving Breast Cancer Detection using Generative Adversarial Networks"
- 2023 *Lance Kennedy*, MS-CS student, Kennesaw State University (Committee Member)
Thesis: "On Training Neurons with Bounded Compilations"
- 2022.F *Tong Chen*, MSCS student, Kennesaw State University (**Chair**)
Thesis: "Improving Fashion Attribute Classification Accuracy with Limited Labeled Data using Transfer Learning"
- 2022 *Neha Bhargava*, MSCS student, Kennesaw State University (Committee Member)
Thesis: "Fairness and Privacy in Machine Learning Algorithms"
- 2022 *Muna Jamel*, MSCS student, Kennesaw State University (Committee Member)
Thesis: "Detection of Ransomware Attacks using Deep Learning"

Research Advisor

- 2022 *Syed Md Shamsul Alam*, Ph.D. student, Kennesaw State University
Research topic: "Approximated Nearest Neighbor Search"
- 2022 *Naga Sai Krishna Adatrao*, MSCS student, Kennesaw State University
Research topic: "Neural Representation Learning for Information Retrieval"
- 2022 *Gowtham Reddy Gadireddy*, MSCS student, Kennesaw State University
Research topic: "Advanced Clustering Algorithms: Towards Deep Clustering"

RESEARCH PROJECTS

- 2022 Meta-Gee: Graph representation learning for IR and KB Construction
– Kennesaw State University, YesLab

- Using meta-doc information with graph neural networks for information retrieval
- 2020 JoMoDEL
 - University of Kentucky, BioNLP Lab
 - Joint neural network model for mention detection and concept normalization with biomedical concepts
 - Role: research assistant (NIH grants R01LM013240)
- 2020 TASumm
 - University of Kentucky, BioNLP Lab
 - Neural Text Summarization Model for Scientific Document Retrieval Tasks
- 2020 Misleading Information about COVID-19
 - University of Kentucky, BioNLP Lab
 - Predictive model using CBA algorithm (apriori association rules) for identifying tweets with misleading information, particularly the use of smoking (vaping) as potential prophylactic or therapeutic for COVID-19.
- 2019 BMET Embeddings
 - University of Kentucky, BioNLP Lab
 - Learning joint word-concept embeddings from the biomedical entity annotated corpus.
- 2019 BioASQ 2018: Large-scale Biomedical Semantic Indexing and Question Answering
 - University of Kentucky, BioNLP Lab
 - Neural model and auxiliary tools for scoring query-document relevance.
 - Ranked 2nd in the Biomedical Semantic Question-Answering subtask
- 2017 TREC, 2017 Precision Medicine Track
 - University of Kentucky, BioNLP Lab
 - Document retrieval system for scientific abstracts and clinical trials addressing relevant treatments for the given patient.
 - System utilizes learning-to-rank methods and different query manipulation techniques.
 - Ranked 6th in Precision Medicine subtrack
- 2015–17 Kratylos: Unified Linguistic Corpora from Diverse Data Sources
 - Endangered Language Alliance (ELA) and University of Kentucky
 - Developed a document management system that serves (computational) linguistic researchers for managing and accessing lexical and corpus datasets
 - <https://www.kratylos.org>
 - Role: research assistant (NSF under the DEL program, grants 1500753)

TEACHING

Courses Taught

Kennesaw State University

- CS 7260: Advanced Database Systems [22Sp]
- CS 6070: Database Systems [22Su]
- CS 7267: Machine Learning [22Sp,23Sp,23F]
- CS 7263: Information Retrieval [21F,22F,23F]
- CS 4422: Information Retrieval [21F,22F,23F]

University of Kentucky

- (As a lecturer) CS 275: Discrete Mathematics [2019,20]
- (As a TA) CS 275: Discrete Mathematics [2018]
- (As a TA) CS 215: Introduction to Program Design, Abstraction, and Problem Solving [2017,18]

Non-credit Instruction

- Workshop on Deep-learning for Research at Kennesaw State University, organizer, May 2023

SERVICE

Reviewer / Program Committee

- Association for the Advancement of Artificial Intelligence (AAAI) [22–25]
- ACM Multimedia (MM) [2023]
- American Medical Informatics Association (AMIA) [19–22]
- Empirical Methods in Natural Language Processing (EMNLP) [2020]
- European Conference on Artificial Intelligence (ECAI) [2024]
- Knowledge-based Systems (KNOSYS) [2021]
- Transactions on Asian and Low-Resource Language Information Processing (TALLIP) [2023]
- Uncertainty in Artificial Intelligence (UAI) [2024]

Institutional Service

- 2022– Admission and Curriculum Committee, committee member
College of Computing and Software Engineering, Kennesaw State University
- 2022,23 KSU C-Day Computing Showcase, reviewer
College of Computing and Software Engineering, Kennesaw State University

Organizer / Chair

- 2023 KSU Deep Learning Summer Boostcamp (organizer)
- 2023.09 Workshop, Task Focused IR in the Era of Generative AI (group discussion panel)

Invited Talks & Presentations

- 2023 Research seminar (“Graph Representation Learning for Information Retrieval”) at CLOVA.ai
- 2021 Seminar talk (“Joint learning for biomedical NER and entity normalization”) at UNLV
- 2021 Oral presentation at the 11th ACM conference on Bioinformatics, Computational Biology, and Health Informatics (ACM-BCB)
- 2020 Invited paper oral presentation at the Workshop on Scholarly Document Processing (SDP) in conjunction with the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP).
- 2020 Research presentation at Center for Computational Sciences (CCS) on Text Summarization for Document Retrieval
- 2018 Invited talk at Korean Scholars Associate at University of Kentucky on knowledge representation in biomedical information science.
- 2018 Oral presentation at 17th IEEE International Conference on Machine Learning and Applications on Document Retrieval for Biomedical Question-Answering

HONORS & AWARDS

- 2024–25 KSU Student Impact Recognition, Department of Career Planning and Development, Kennesaw State University
- 2024 KSU Outstanding Teaching Award, College of Computing and Software Engineering, Kennesaw State University
- 2020 University of Kentucky, Graduate School Congress (GSC) Travel awards
- 2020 Runner-up in the 2020 research poster presentation competition at the Commonwealth Computational Summit
- 2018 Department Conference Travel Award, University of Kentucky, Department of Computer Science
- 2018 Winner of BioASQ 2018 Challenge — Large-scale biomedical semantic indexing and question answering
- 2017 Winner of TREC 2017 — Precision Medicine Track Competition, Top 5 retrieval system
- 2013 Department Excellence Award, University of Texas at Austin, Texas
- 2011–12 Dean’s List and Founders Scholar, Indiana University at Bloomington
- 2011–12 Lindley Scholarship, Indiana University at Bloomington

PROFESSIONAL DEVELOPMENT

Conference Attended

- 2023 2023 NVIDIA GTC
- 2023 2023 ACM South-East Regional Conference

Workshop Participated

- 2023 NIH Grant Writing Workshop, Kennesaw State University, Office of Research
- 2023 SEED, Scientists and Engineers Early Career Development Workshop, Korean-American Scientists and Engineers Association (KSEA), Dallas, Texas

PRIOR PROFESSIONAL EXPERIENCE

- 2013–14 *Research Assistant Developer*
Center for Research on Electronic Commerce, University of Texas at Austin, Texas
- 2009–11 *CEO and Co-Founder*
TravelCombi Co., Ltd., Seoul, Korea
Online reservation system for hotels, flights, and resort condos.
- before *Republic of Korea Marine Corps*