

# Jiyeon Pyo

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## Research Interest

Geospatial AI, Multimodal reasoning, Spatial understanding, Human-centered AI applications

## Education


<b>University of Minnesota - Twin Cities</b> <i>Ph.D. in Computer Science</i> <ul style="list-style-type: none"> <li>◦ Advisor: Prof. Yao-Yi Chiang</li> </ul>	<i>Sept 2023 – Present</i>
<b>University of Minnesota - Twin Cities</b> <i>M.Sc. in Computer Science</i>	<i>Sept 2023 – May 2025</i>
<b>The Cooper Union</b> <i>M.Eng. in Electrical Engineering</i> <ul style="list-style-type: none"> <li>◦ Advisor: Prof. Carl Sable</li> <li>◦ Thesis: Detection and Replacement of Neologisms for Translation (<a href="#">ProQuest</a> <a href="#">🔗</a>)</li> </ul>	<i>Aug 2019 – May 2023</i>
<b>The Cooper Union</b> <i>B.Eng. in Electrical Engineering (Computer Engineering)</i> <ul style="list-style-type: none"> <li>◦ Minor: Computer Science</li> </ul>	<i>Aug 2019 – May 2023</i>

## Publications

<b>FRIEDA: Benchmarking Multi-Step Cartographic Reasoning in Vision-Language Models</b> <i>Jiyeon Pyo</i> , Yuankun Jiao, Dongwon Jung, Zekun Li, Leeje Jang, Sofia Kirsanova, Jina Kim, Yijun Lin, Qin Liu, Junyi Xie, Hadi Askari, Nan Xu, Muhao Chen, Yao-Yi Chiang <i>Preprint, Accepted to ICLR2026</i> <a href="#">🔗</a>	Oct 2025
<b>Augmenting Human-Centered Racial Covenant Detection and Georeferencing with Plug-and-Play NLP Pipelines</b> <i>Jiyeon Pyo</i> , Yuankun Jiao, Yao-Yi Chiang, Michael Corey <a href="#">10.1145/3764917.3771333</a> <a href="#">🔗</a>	Sept 2025
<b>Exploiting LLMs and Semantic Technologies to Build a Knowledge Graph of Historical Mining Data</b> Craig A. Knoblock, Binh Vu, Basel Shbita, Yao-Yi Chiang, Pothula Punith Krishna, Xiao Lin, Goran Muric, <i>Jiyeon Pyo</i> , Adriana Trejo-Sheu, Meng Ye <a href="#">10.1007/978-3-032-09530-5_26</a> <a href="#">🔗</a>	July 2025
<b>Leveraging Large Language Models for Generating Labeled Mineral Site Record Linkage Data</b> <i>Jiyeon Pyo</i> , Yao-Yi Chiang <a href="#">10.1145/3687123.3698298</a> <a href="#">🔗</a>	July 2024

## Research Experience

<b>Graduate Research Assistant</b> <i>University of Minnesota - Knowledge Computing Lab</i>	<i>University of Minnesota</i> <i>Fall 2023 - Present</i>
<b>Research Intern</b> <i>Reykjavik University - Language and Voice Lab</i>	<i>Reykjavik, Iceland</i> <i>May 2022 - Aug 2022</i>

- Contributed to the Icelandic Language Technology 2018-2022 project by researching natural language processing (NLP) techniques for Icelandic
- Collaborated with IcelandAir to develop a [multilingual customer survey sentiment analysis tool](#) 
- Evaluated the performance of IceBERT against RoBERTa and XLNet for analyzing customer feedback across different languages

## Teaching & Mentoring

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- Graduate TA, CSCI5541: Natural Language Processing (Spring/2026)
- Graduate TA, CSCI4541: Introduction to Natural Language Processing (Fall/2025)
- Graduate TA, CSCI5523: Introduction to Data Mining (Spring/2025)
- Head TA, CSCI1913: Introduction to Algorithms, Data Structures, and Programming (Fall/2023)
- Undergraduate TA, ECE303: Communication Networks (Spring/2023)
- Undergraduate TA, ECE302: Probability Models and Stochastic Processes (Spring/2023)
- Undergraduate TA, ECE300: Communication Theory (Fall/2022)
- Undergraduate TA, ECE240: Circuit Analysis (Fall/2022)
- Head TA, PH291: Physics Lab (Fall/2021)

## Academic & Community Service

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- Reviewer, *The 8th ACM SIGSPATIAL International Workshop on AI for Geographic Knowledge Discovery* (2025)

## Awards & Fellowships

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- Jesse Sherman Book Award, The Cooper Union (2023)
- Norman Perry Internship Award, The Cooper Union (2023)
- Half-Tuition Merit Scholarship, The Cooper Union (2019-2023)
- Innovator Merit Award, The Cooper Union (2019-2023)

## Technologies

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**Languages:** Python, C++, C, Java, JavaScript

**ML/NLP/Vision:** PyTorch, Hugging Face Transformers, scikit-learn

**Database/Big Data:** MySQL, PostgreSQL, Spark, MongoDB