

Education

University of British Columbia

PHD DEGREE, COMPUTER SCIENCE, 4.0/4.0

- Relevant Coursework: Causal Machine Learning (A+), Multimodal Learning with Vision, Language and Sound (A+)

Vancouver, BC

Sep. 2022 - Present

University of Massachusetts-Amherst

MASTER'S DEGREE, COMPUTER SCIENCE, 3.67/4.0

- Relevant Coursework: Machine Learning, Neural Networks: A Modern Introduction, Artificial Intelligence, Advanced Natural Language Processing, Algorithms for Data Science, Information Retrieval

Amherst, MA

Sep. 2019 - May. 2021

Kwangwoon University

BACHELOR'S DEGREE, COMPUTER SCIENCE, 3.82/4.5

- Relevant Coursework: Algorithm, Data Structure, Object Oriented Programming, Computer Architecture, Database, Human Computer Interface, Practice in Application Software, Digital Logic, Programming Language Concepts, Calculus, Discrete Mathematics

Seoul, S.Korea

Mar. 2014 - Feb. 2018

Publication

Knowledge Graph Compression Enhances Diverse Commonsense Generation

EUNJEONG HWANG, VERONIKA THOST, VERED SHWARTZ, TENGFEI MA

In Submission, 2023

MemeCap: A Dataset for Captioning and Interpreting Memes

EUNJEONG HWANG, VERED SHWARTZ

Arxiv preprint, 2023

Aligning Language Models to User Opinions

EUNJEONG HWANG, BODHISATTWA PRASAD MAJUMDER, NIKET TANDON

Arxiv preprint, 2023

An Analysis of Virtual Nodes in Graph Neural Networks for Link Prediction (Extended Abstract)

EUNJEONG HWANG, VERONIKA THOST, SHIB SANKAR DASGUPTA, TENGFEI MA

LoG 2022 (Oral)

Event-Event Relation Extraction using Probabilistic Box Embedding

EUNJEONG HWANG, JAY-YOON LEE, TIANYI YANG, DHURUVESH PATEL, DONGXU ZHANG, ANDREW MCCALLUM

ACL 2022

Interdependency between the Stock Market and Financial News

EUNJEONG HWANG, YONG-HYUK KIM

IEEE BigData 2019

Research Experience

University of British Columbia

RESEARCH ASSISTANT, ADVISED BY VERED SHWARTZ

- Working on collecting meme dataset to generate interpretable descriptions.
- Working on generating diverse commonsense sentences from commonsense knowledge graphs.
- Working on aligning large language models to user opinions.

Vancouver, BC

Sep. 2022 - Present

MIT-IBM Research

RESEARCH INTERN, ADVISED BY VERONIKA THOST, DAN GUTFREUND

- Working on reasoning problems with structured representation.

Cambridge, MA

Jul. 2023 - Dec. 2023

UMass Amherst-IBM

IBM GRADUATE STUDENT RESEARCHER, ADVISED BY VERONIKA THOST, TENGFEI MA

- Proposed virtual node augmented graph neural networks (GNN) for link prediction tasks. Our model outperformed not only standard GNN models, such as GCN, GraphSAGE, GIN, but also other complex models, such as Academic Adar, SEAL, on Open Graph Benchmark datasets.

Amherst, MA

Feb. 2021 - Oct. 2021

Information Extraction & Synthesis Lab, UMass Amherst

GRADUATE STUDENT RESEARCHER, ADVISED BY JAY-YOON LEE, MICHAEL BORATKO, PROF. ANDREW MCCALLUM

[Event-Event Relation Extraction using Box Embeddings]

- Modeled temporal and hierarchical event as boxes, trained them jointly, and predicted relation labels.
- Our model showed better coherency than vector model and performance significantly improved on symmetric evaluation dataset.

Amherst, MA

Jan. 2020 - Aug. 2021

Feb. 2021 - Aug. 2021

[Question Answering over Multi-Hop Knowledge Graphs using Box Embeddings]

- Implemented a mathematically explainable box embedding model to answer complex logical queries efficiently on incomplete knowledge graphs.
- Had 1% performance gain with gumbel distribution and scaling operator on queries comparing to query2box model.

Jan. 2020 - Aug. 2020

Optimization & Knowledge Engineering Lab, Kwangwoon University

RESEARCH ASSISTANT, ADVISED BY PROF. YONG-HYUK KIM

- Crawled and preprocessed financial news articles, extracted phrases including sentiments, and analyzed the sentiments to stock market price.

Seoul, S.Korea

May. 2019 - Dec. 2019

Industry Experience

Naver SOFTWARE ENGINEER - KNOWLEDGE BASE TEAM		Seoul, S.Korea
	<ul style="list-style-type: none"> Constructed a knowledge graph based on regional district information, such as restaurants, festival, exhibition, and expanded search queries using neo4j along with developing weather related search system. Skills used: Java, Spring, Git 	Mar. 2021 - Jun. 2022
IBM APPLICATION DEVELOPER		Seoul, S.Korea
	[Information System Audit, Standard Chartered Bank] <ul style="list-style-type: none"> Maintained and improved functionality of bank surveillance system and bank branch audit system. Skills used: Java, Spring, Nexacro, SVN [Stock Market Predictions using AI, Shinhan Financial Group] <ul style="list-style-type: none"> Extracted financial text patterns using regular expression with the help of rule-based natural language processing solution. Implemented major financial news retrieval program using Rest API and constructed financial keyword graph by extracting important phrases in retrieved news. Relevance scores from Watson Api, Apriori, TF-IDF, and cosine similarity were used to decide and extract important phrases. Skills used: Java, IBM Watson, Hadoop, SVN [Learning Platform Development, Hanwha] <ul style="list-style-type: none"> Implemented basic functions on learning platform, including search, paging, listing, and export by participating in all phases of project from requirement specifications to user acceptance testing with clients. Skills used: Java, Spring, Javascript, HTML/CSS, Thymeleaf, Oracle DB, SVN 	Jan. 2018 - Apr. 2019 Jan. 2019 - Apr. 2019 Mar. 2018 - Jan. 2019 Jan. 2018 - Mar. 2018
IBM APPLICATION DEVELOPER INTERN		Seoul, S.Korea
	<ul style="list-style-type: none"> Designed database tables and developed the learning platform websites in accordance with user interface design. Skills used: Java, Spring, Javascript, HTML/CSS, Thymeleaf, Oracle DB, SVN 	Sep. 2017 - Dec. 2017
The Development Factory SOFTWARE ENGINEER INTERN		Sydney, Australia
	<ul style="list-style-type: none"> Maintained functionality and improved design of Rivuu admin website. Skills used: Google Firebase, Node JS, Bootstrap 	Jan. 2017 - Feb. 2017

Honors & Awards

Sep, 2022	President’s Academic Excellence Initiative PhD Award , University of British Columbia	Vancouver, BC
Sep, 2022	International Tuition Award , University of British Columbia	Vancouver, BC
Sep, 2022	Faculty of Science PhD Tuition Award , University of British Columbia	Vancouver, BC
Sep, 2015	Academic Excellence Scholarship , Kwangwoon University	Seoul, S.Korea
Mar, 2014	Academic Excellence Scholarship , Kwangwoon University	Seoul, S.Korea
Sep, 2014	Academic Excellence Scholarship , Kwangwoon University	Seoul, S.Korea

Teaching Experience

University of Massachusetts-Amherst	Amherst, MA
GRADER FOR CS685 ADVANCED NATURAL LANGUAGE PROCESSING (PROF. BRENDAN O’CONNOR)	Feb. 2021 - May. 2021
<ul style="list-style-type: none"> Grade students’ assignments, provide feedback, and help them out to solve confusion on class material. 	

Technical Skills

Programming Python, JAVA
Packages PyTorch