Eunjeong **Hwang**

Vancouver, BC | ☐ 2363081374 | hej78520@gmail.com | ⌂ https://eujhwang.github.io/

Education

University of British Columbia
PhD Degree, Computer Science

Vancouver, BC
Sep. 2022 - Present

- Relevant Coursework: Causal Machine Learning, Multimodal Learning with Vision, Language and Sound

University of Massachusetts-Amherst
Master's Degree, Computer Science, 3.67/4.0

Amherst, MA
Sep. 2019 - May. 2021

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

Kwangwoon University
Bachelor's Degree, Computer Science, 3.82/4.5

Seoul, S.Korea
Mar. 2014 - Feb. 2018

- 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

Publication

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

LoG 2022 (Oral)

EunJeong Hwang, Veronika Thost, Shib Sankar Dasgupta, Tengfei Ma

Event-Event Relation Extraction using Probabilistic Box Embedding

ACL 2022

EunJeong Hwang, Jay-yoon Lee, Tianyi Yang, Dhruvesh Patel, Dongxu Zhang, Andrew McCallum

Interdependency between the Stock Market and Financial News

IEEE BigData 2019

EunJeong Hwang, Yong-Hyuk Kim

Research Experience

University of British Columbia
Research Assistant, Advised by Vered Shwartz

Vancouver, BC
Sep. 2022 - Present

- Working on collecting meme dataset to generate interpretable descriptions.
- Working on identifying spurious correlation of words on sentiment analysis.
- Working on injecting cultural commonsense to image captioning model.

UMass Amherst-IBM
IBM Graduate Student Researcher, Advised by Veronika Thost, Tengfei Ma

Amherst, MA
Feb. 2021 - Oct. 2021

- 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. Got review ratings of 7/6/6/5 at NeurIPS 2021, but rejected.

Information Extraction & Synthesis Lab, UMass Amherst
Graduate Student Researcher, Advised by Jay-Yoon Lee, Michael Boratko, Prof. Andrew McCallum

Amherst, MA
Jan. 2020 - Aug. 2021

[Event-Event Relation Extraction using Box Embeddings]

Feb. 2021 - Aug. 2021

- 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.

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

Jan. 2020 - Aug. 2020

- 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.

Optimization & Knowledge Engineering Lab, Kwangwoon University
Research Assistant, Advised by Prof. Yong-Hyuk Kim

Seoul, S.Korea
May. 2019 - Dec. 2019

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

Industry Experience

Naver
Software Engineer - Knowledge Base Team

Seoul, S.Korea
Mar. 2021 - Jun. 2022

- 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

IBM

Application Developer

[Information System Audit, Standard Chartered Bank]
- 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]
- 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]
- 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

Seoul, S.Korea

Jan. 2018 - Apr. 2019
Jan. 2019 - Apr. 2019

Mar. 2018 - Jan. 2019

Jan. 2018 - Mar. 2018

IBM

Application Developer Intern
- 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

Seoul, S.Korea

Sep. 2017 - Dec. 2017

The Development Factory

Software Engineer Intern
- Maintained functionality and improved design of Rivuu admin website.
- Skills used: Google Firebase, Node JS, Bootstrap

Sydney, Australia

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

Grader for CS685 Advanced Natural Language Processing (Prof. Brendan O'Connor)
- Grade students' assignments, provide feedback, and help them out to solve confusion on class material.

Amherst, MA

Feb. 2021 - May. 2021

Technical Skills

Programming Python, JAVA   **Packages** PyTorch