

Education

University of Massachusetts-Amherst

Amherst, MA

MASTER'S DEGREE, COMPUTER SCIENCE

Sep. 2019 - May. 2021 (Expected)

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

Kwangwoon University

Seoul, S.Korea

BACHELOR'S DEGREE, COMPUTER SCIENCE, 3.82/4.5

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

University of Nebraska-Kearney

Kearney, NE

EXCHANGE STUDENT, COMPUTER SCIENCE

Sep. 2015 - May. 2016

Research Experience

UMass Amherst-IBM

Amherst, MA

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

Feb. 2021 - Present

- 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. In submission to NeurIPS 2021.

Information Extraction & Synthesis Lab, UMass Amherst

Amherst, MA

GRADUATE STUDENT RESEARCHER, ADVISED BY PROF. ANDREW MCCALLUM, MICHAEL BORATKO, XIANG LORRAINE LI

Jan. 2020 - Present

[Joint Constrained Learning using Box Embeddings]

Feb. 2021 - Present

- Implemented relation extraction model using box embedding and effectively reduced constraint violation numbers in relation labels.

[Commonsense Reasoning over Multi-Hop Knowledge Graphs using Box Embeddings]

Jan. 2020 - Present

- Implemented a box embedding model to answer complex logical queries efficiently on incomplete knowledge graphs.
- Built more mathematically explainable model by making geometric boxes probabilistic boxes using Gumbel distribution.

Optimization & Knowledge Engineering Lab, Kwangwoon University

Seoul, S.Korea

RESEARCH ASSISTANT, ADVISED BY PROF. YONG-HYUK KIM

May. 2019 - Dec. 2019

- Crawled and preprocessed financial news articles and extracted phrases including sentiments using python nltk library.
- Compared and analyzed the sentiments to stock market price using gaussian processes, linear regression, support vector regression, and random forest.

Industry Experience

Naver

Seoul, S.Korea

SOFTWARE ENGINEER - KNOWLEDGE BASE TEAM

Mar. 2021 - Present

- Developed air pollution/weather search system

IBM

Seoul, S.Korea

APPLICATION DEVELOPER

Jan. 2018 - Apr. 2019

[Information System Audit, Standard Chartered Bank]

Jan. 2019 - Apr. 2019

- Maintained and improved functionality, including security authentication, paging, search, and additional pop ups, on bank surveillance system and bank branch audit system.
- Participated from website development to user acceptance testing with clients and deployment.
- Skills used: Java, Spring, Nexacro, SVN

[Stock Market Predictions using AI, Shinhan Financial Group]

Mar. 2018 - Jan. 2019

- Extracted financial text patterns using regular expression with the help of rule-based natural language processing solution and managed 1 million+ raw data using Hadoop.
- 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, Python, IBM Watson, Hadoop, Maria DB, SVN

[Learning Platform Development, Hanwha]

Jan. 2018 - Mar. 2018

- Implemented basic functions on learning platform, including search, paging, listing, and export.
- Participated in all phases of project from requirement specifications and development to integration testing and user acceptance testing with clients.
- Skills used: Java, Spring, Javascript, HTML/CSS, Thymeleaf, Oracle DB, SVN

IBM

Seoul, S.Korea

APPLICATION DEVELOPER INTERN

Sep. 2017 - Dec. 2017

- 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

The Development Factory

Sydney, Australia

SOFTWARE ENGINEER INTERN

Jan. 2017 - Feb. 2017

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

Publication

Interdependency between the Stock Market and Financial News

IEEE BigData 2019

EUNJEONG HWANG, YONG-HYUK KIM

Teaching Experience

University of Massachusetts-Amherst

Amherst, MA

GRADER FOR CS685 ADVANCED NATURAL LANGUAGE PROCESSING (PROF. BRENDAN O'CONNOR)

Feb. 2021 - Present

- Grade students' assignments, provide feedback, and help them out to solve confusion on class material.

Technical Skills

Programming

Python, JAVA

Packages

PyTorch, Numpy