HARITZ PUERTO

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EDUCATION

KAIST, Korea *August 2018 - Feb 2021 (expected)*
IR&NLP Lab. Advisor: Sung-Hyon Myaeng GPA: 3.52 / Percetange: 91.66
Master in Computer Science

Dongseo Univeristy, Korea *August 2017 - August 2018*
Korean Language Program Achieved TOPIK 4 (B2)

Seoul National University, Korea *September 2014 - December 2014*
Exchange semester
Department of Computer Science

University of Malaga, Spain *September 2012 - June 2017*
BSc. in Computer Science. Computation specialization. Overall Percentage: 90.2
Summa Cum Laude

LANGUAGES

Spanish	Mother Tongue
English	Full Working Proficiency, TOEFL iBT 95
Korean	Intermediate Level TOPIK 4 (한국어능력시험 4급)
French	Beginner Level

CARRIER OBJECTIVE

Make AI able to fully understand text like humans and test that ability through Question Answering. My research area lies in the intersection between Machine Learning and Natural Language Processing. In detail, I am working on Question Answering with special focus on graph-based multi-hop reasoning, Question Generation, and Graph Neural Networks.

WORK EXPERIENCE

IR&NLP Lab, KAIST, Korea August 2018 - Today
Research Assistant

· Research on Machine Learning and Natural Language Processing. Specifically, Question Answering, Question Generation, and Information Extraction.

CLAROFLEX, Spain June 2015 - July 2017
Software Engineer

· Development of an ERP using Java EE, Python, and MySQL.

PUBLICATIONS

* indicates equal contribution.

Junmo Kang*, Giwon Hong*, **Haritz Puerto***, Sung-Hyon Myaeng. **Regularization of Distinct Strategies for Unsupervised Question Generation**. In Proceedings of Findings of EMNLP, 2020.

Doyeon Lim*, Haritz Puerto*, Sung-Hyon Myaeng. **Analysis of the Semantic Answer Types to Understand the Limitations of MRQA Models**. Journal of KIISE (2020).

Junmo Kang*, Haritz Puerto*, and Sung-Hyon Myaeng. **Let Me Know What to Ask: Interrogative-Word-Aware Question Generation.** In Proceedings of the 2nd Workshop on Machine Reading for Question Answering, EMNLP 2019.

Haritz Puerto*, Doyeon Lim*, and Sung-Hyon Myaeng. **Analysis of Answer Type Application Ability of State-of-the-Art Reading Comprehension Models for Question Answering Task**. In Proceedings of Korea Computer Congress (2019). Best Paper Award.

PROJECTS

M.S. Thesis Dec 2020

A Hierarchical SRL Graph Network for Multi-Hop Question Answering

· Abstract. Multi-hop question answering requires the aggregation of information from several documents to and the answer to a question. Most prominent works approach this aggregation through entity graphs. However, they tend to overlook intra-sentence reasoning. In this work, we propose a graph structure whose main innovation is the use of semantic role labeling (SRL) arguments to explicitly model all the multi-hop reasoning steps, including the intra-sentence reasoning. Additionally, we propose a novel hierarchical graph2seq mechanism to fuse multi-hop and entity boundary information from the graph into the token embeddings of the context to enhance the answer span prediction task. We achieve competitive performance compared to the current state of the art and prove through extensive qualitative and quantitative experiments the effectiveness of SRL to model multi-hop reasoning, as well as the capabilities of our hierarchical graph2seq mechanism, which outperforms all previous approaches, to fuse graph information into the token embeddings.

ExoBrain December 2018 - Dec 2020

· Modeling Multi-Hop Question Answering using graph neural networks. It is a project funded by the Institute for Information & Communications Technology Planning & Evaluation (IITP).
http://exobrain.kr/pages/en/

Rich Context Competition October 2018 - February 2019

· Won the honorable mention award (2nd position) in an international competition about information retrieval in scientific publications. The goal is to find the datasets used in scientific publications. We solved the problem modeling as a Question Answering task. In April 2020 a book will be published with the details of our approach. We were also invited to NYU to present our work in the workshop. The project was realized with Giwon Hong and Cao-Minh Son, from IR&NLP Lab at KAIST.
https://coleridgeinitiative.org/richcontextcompetition

AWARDS

Best Paper Award at Korea Computer Congress 2019.

Korean Government Scholarship Program (to study a Master's degree in Korea).

European Institute of Innovation and Technology (EIT Digital) Master scholarship (Gracefully declined).

Graduation with Honors in the Department of Computer Science at the University of Malaga.

Ranked 1st in 14 courses at the Univeristy of Malaga (*Matricula de honor* in Spanish).

Ranked 1st in High School.

Exchange Semester scholarship by the University of Malaga (to study at Seoul National University).