

CHAN HEE (LUKE) SONG

<https://chanh.ee>

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EDUCATION

University of Notre Dame

August 2014 - May 2020 (Expected)

Bachelor of Science in Computer Science

GPA: 3.72/4.00, Major GPA: 3.96/4.00

Advisor: Professor David Chiang

Note: 2 years of mandatory Military Service from July 2015 - April 2017

RESEARCH INTERESTS

- Information Extraction: QA, Machine Reading Comprehension, Reasoning, Knowledge Graph Construction
- Few-shot learning, semi-supervised learning in NLP
- Paragraph, document-level context
- Conversational machine learning, using user input as label
- Semantic representations (AMR, Decomp)

PUBLICATIONS

- [1] **Chan Hee Song**, Arijit Sehanobish
“Using Chinese Glyphs for Named Entity Recognition”
To Appear in Proceedings of AAAI-2020, Student Abstract
<https://arxiv.org/abs/1909.09922>
- [2] **Chan Hee Song**, Dawn Lawrie, Tim Finin, James Mayfield
“Gazetteer Generation for Neural Named Entity Recognition”
Under review by FLAIRS-33

RESEARCH / WORK EXPERIENCES

Human Language Technology Center of Excellence @ JHU

May 2019 - August 2019

Visiting Researcher, participant of SCALE

- Introduced a lexical feature generated from gazetteers (lists) to named entity recognition (NER) systems
- Created an additional annotated NER dataset by replacing entities in the original NER dataset with entities in the collected lists
- Implemented various state-of-the-art neural architectures such as non-autoregressive models and seq2seq models for named entity recognition task

Kyndi, Inc. / San Mateo, CA

January 2019 - May 2019

Software Engineering Intern

- Worked on building a system that turns unstructured text data into a knowledge graph and perform NER & QA
- Migrated in-memory graph to a external database (Neo4J)
- Built a GraphQL server to interact with the external database using React-Apollo client with Typescript
- Improved accuracy and representation of the knowledge graph by writing unique graph operations

- Investigated the impact of sentence representation on neural machine translation systems
- Developed an novel Huffman-code based encoding mechanism that showed up to 2.5x increase in training and translation time

TEACHING

- Undergraduate Teaching Assistant, Theory of Computing Spring 2020
- Undergraduate Teaching Assistant, Computer Security Spring 2020
- Undergraduate Teaching Assistant, Fundamentals of Computing Fall 2018

HONORS, AWARDS & SCHOLARSHIPS

- AAI-2020 Student Scholarship
- Dean's list: Spring 2015, Fall 2017, Spring 2018, Fall 2018, Spring 2019

MEMBERSHIP

- AAI

SKILLS

Language	Python, C++, C, Java, NoSQL (Neo4j), GraphQL, Javascript
Library & Package	Tensorflow, Pytorch, Numpy
Natural Language	English (Fluent), Korean (Fluent), Chinese (Elementary)