

Hwanhee Lee

PH.D CANDIDATE @ SEOUL NATIONAL UNIVERSITY

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Education

Seoul National University

PH.D CANDIDATE OF ELECTRICAL AND COMPUTER ENGINEERING

Seoul, Korea

Mar. 2017 - Aug. 2022 (Expected)

- Machine Intelligence Laboratory (Advisor: Kyomin Jung)
- Thesis Theme: Factual Consistency Evaluation for Conditional Text Generation Systems (Expected)

Seoul National University

BACHELOR OF ELECTRICAL AND COMPUTER ENGINEERING

Seoul, Korea

Mar. 2013 - Feb. 2017

Research Experience

NAVER CLOVA AI Research

RESEARCH INTERN

Sungnam, Korea

Aug. 2021 - Jan. 2022

- NAVER AI LAB Language Research Team
- Working with Hwaran Lee, Kang Min Yoo, Joonsuk Park
- Theme: Factual Consistency Evaluation and Optimization for Abstractive Summarization
- Published a paper at NAACL

Adobe Research

COLLABORATIVE RESEARCHER

San Jose, CA

Nov. 2019 - Current

- Natural Language Processing Group
- Remote Working with Seunghyun Yoon, Franck Dernoncourt, Trung Bui, Doo Soon Kim
- Theme: Text Evaluation Metric, Factual Error Correction, Multimodal Dialogue Generation
- Published 5+ papers including ACL, NAACL, EMNLP

Seoul National University

RESEARCH ASSISTANT

Seoul, Korea

Mar. 2017 - Current

- Research Interests: Natural Language Processing, Deep Learning
- Current Focus: Text Generation and Evaluation, Language Grounding with Vision
- Published 14+ papers, carried out 8 research projects, worked as TA for 6 semesters

Scholarships & Awards

AIIS Youlchon AI STAR Scholarship

GRANTED BY NONGSIM YOULCHON FOUNDATION

Sep. 2021

Scholarship of Electronics, Electrical and Computer Engineering

GRANTED BY FOUNDATION FOR ELECTRONICS, ELECTRICAL AND COMPUTER ENGINEERING AT SEOUL NATIONAL UNIVERSITY

Mar. 2018

National Science & Technology Scholarship (Full-tuition)

GRANTED BY KOREA STUDENT AID FOUNDATION

Mar. 2013 - Feb. 2017

Publications

International Conferences

Masked Summarization to Generate Factually Inconsistent Summaries for Improved Factual Consistency Checking

HWANHEE LEE, KANG MIN YOO, JOONSUK PARK, HWARAN LEE, KYOMIN JUNG

- Findings of the Association for Computational Linguistics: NAACL 2022 (**Findings of NAACL 2022**)

QACE: Asking Questions to Evaluate an Image Caption

HWANHEE LEE, THOMAS SCIALOM, SEUNGHYUN YOON, FRANK DERNONCOURT, AND KYOMIN JUNG

- Findings of the Association for Computational Linguistics: EMNLP 2021 (**Findings of EMNLP 2021**)

CrossAug: A Contrastive Data Augmentation Method for Debiasing Fact Verification Models

MINWOO LEE, SEUNGPIIL WON, JUAE KIM, [HWANHEE LEE](#), CHEONUM PARK, AND KYOMIN JUNG

- 30th ACM International Conference on Information and Knowledge Management (**CIKM 2021**)

UMIC: An Unreferenced Metric for Image Captioning via Contrastive Learning

[HWANHEE LEE](#), SEUNGHYUN YOON, FRANK DERNONCOURT, TRUNG BUI, AND KYOMIN JUNG

- The Joint Conference of the 59th Annual Meeting of the Association for Computational Linguistics and the 11th International Joint Conference on Natural Language Processing (**ACL 2021**)

Entangled Bidirectional Encoder to Autoregressive Decoder for Sequential Recommendation

TAEGWAN KANG, [HWANHEE LEE](#), BYEONGJIN CHOE AND KYOMIN JUNG

- International ACM SIGIR Conference on Research and Development in Information Retrieval (**SIGIR 2021**)

KPQA: A Metric for Generative Question Answering Using Keyphrase Weights

[HWANHEE LEE](#), SEUNGHYUN YOON, FRANK DERNONCOURT, DOO SOON KIM, TRUNG BUI, JOONGBO SHIN AND KYOMIN JUNG

- Annual Conference of the North American Chapter of the Association for Computational Linguistics (**NAACL 2021**)

Attentive Modality Hopping Mechanism for Speech Emotion Recognition

SEUNGHYUN YOON, SUBHADEEP DEY, [HWANHEE LEE](#) AND KYOMIN JUNG

- IEEE International Conference on Acoustics, Speech and Signal Processing (**ICASSP 2020**)

Improving Neural Question Generation Using Answer Separation

YANGHOON KIM, [HWANHEE LEE](#), JOONGBO SHIN, KYOMIN JUNG

- Thirty-Third AAAI Conference on Artificial Intelligence (**AAAI 2019**)

On Progress

Factual Error Correction for Abstractive Summaries Using Entity Retrieval

[HWANHEE LEE](#), CHEONEUM PARK, SEUNGHYUN YOON, TRUNG BUI, FRANCK DERNONCOURT, JUAE KIM, KYOMIN JUNG

- Under Review

Gated Relational Target-aware Encoder and Local Context-aware Decoder for Target-oriented Opinion Words Extraction

TAEGWAN KANG, SEGWANG KIM, HYEONGU YUN, [HWANHEE LEE](#), KYOMIN JUNG

- Under Review

Word-Adaptive Defense Methods for Word Substitution-based Adversarial Attacks

TAEGWAN KANG, YANGHOON KIM, HYEONGU YUN, [HWANHEE LEE](#), KYOMIN JUNG

- Under Review

Attribution-based Task-specific Pruning for Multi-task Language Models

NAKYEONG YANG, YUNAH JANG, [HWANHEE LEE](#), SEOHYEONG JUNG, KYOMIN JUNG

- Under Review

Peer Reviewed Workshops

Improving Multiple Documents Grounded Goal-Oriented Dialog Systems via Diverse Knowledge Enhanced Pre-trained Language Model

YUNAH JANG, DONGRYEOL LEE, HYUNG JOO PARK, TAEGWAN KANG, [HWANHEE LEE](#), HYUNKYUNG BAE, KYOMIN JUNG

- 2nd Workshop on Document-grounded Dialogue and Conversational Question Answering (**DialDoc 2022**) at ACL 2022

Learning to Select Question-Relevant Relations for Visual Question Answering

JAEOOONG LEE*, HEEJOON LEE*, [HWANHEE LEE](#), KYOMIN JUNG

- Third Workshop on Multimodal Artificial Intelligence Workshop (**MAI 2021**) at NAACL 2021

Relevance Similarity Scorer and Entity Guided Reranking for Knowledge Grounded Dialog System

HYUNKYUNG BAE, MINWOO LEE, AHHYEON KIM, [HWANHEE LEE](#), CHEONGJAE LEE, CHEONUM PARK, DONGHYEON KIM, KYOMIN JUNG

- The Ninth Dialog System Technology Challenge (**DSTC 2021**) at AAAI 2021

ViLBERTScore: Evaluating Image Caption Using Vision-and-Language BERT

HWANHEE LEE, SEUNGHYUN YOON, FRANK DERNONCOURT, DOO SOON KIM, TRUNG BUI, KYOMIN JUNG

- First Workshop on Evaluation and Comparison of NLP Systems (**Eval4NLP 2020**) at EMNLP 2020

Multimodal Semantic Transformer Network with Retrieval Style Word Generator

HWANHEE LEE, SEUNGHYUN YOON, FRANK DERNONCOURT, DOO SOON KIM, TRUNG BUI AND KYOMIN JUNG

- Eighth Dialog System Technology Challenge (**DSTC 2020**) at AAAI 2020

AttnConvnet at SemEval-2018-Task 1: Attention-based Convolutional Neural Networks for Multi-label Emotion Classification

YANGHOON KIM, HWANHEE LEE, KYOMIN JUNG

- International Workshop on Semantic Evaluation 2018 (**SemEval 2018**) at NAACL 2018

Research Projects

Credibility of Large-scale Language Models and their Application to Knowledge Based Dialogue Models

FUNDED BY NAVER CLOVA AI RESEARCH

June. 2021 - Current

- Developing Factual Consistency Evaluation and Optimization System
- Developing a Personalized Dialog System

Factual Error Correction on Grounded Text Generation Systems

JOINT WORK WITH ADOBE RESEARCH

Feb. 2021 - Feb. 2022

- Developing Factual Error Correction System for Abstractive Summarization Systems

Knowledge-Grounded Conversational Question Answering System

FUNDED BY HYUNDAI AIRLAB

Sep. 2020 - Current

- Constructing Korean Conversational QA Dataset
- Developing Korean Conversational QA System

Evaluation Metric for Grounded Text Generation Systems

JOINT WORK WITH ADOBE RESEARCH

Dec. 2019 - Jan. 2021

- Developed Evaluation Metrics for Generative QA and Image Captioning

Deep Learning Based Context-awareness Dialog System

FUNDED BY SAMSUNG ADVANCED INSTITUTE OF TECHNOLOGY

May. 2019 - May. 2020

- Developed a Multimodal Dialog System

Global Internet Big Text Data Monitoring

FUNDED BY MINISTRY OF TRADE, INDUSTRY AND ENERGY

Jan. 2018 - June. 2020

- Developed Open Domain QA System and Question Generation System

Deep Learning Based Recommendation System

FUNDED BY LAONTRIP

Mar. 2017 - Dec. 2017

- Developed a Package Tour Recommendation System

Deep Learning Based Fraud Detection System

FUNDED BY KOREA CREDIT BUREAU

Mar. 2017 - Sep. 2017

- Developed a Fraud Detection System for Credit Card

Teaching Experiences

Machine Learning

TEACHING ASSISTANT

Seoul National University

Spring 2019, Spring 2018

Programming Methodology

TEACHING ASSISTANT

Seoul National University

Spring 2022, Spring 2020, Spring 2017

Invited Talks

Hyperconnect

ASKING QUESTIONS TO EVALUATION AN IMAGE CAPTION

Seoul, Korea

Jan. 2022

Kakao Enterprise

KEYPHRASE WEIGHTS AND DATA AUGMENTATION FOR TEXT EVALUATION

Sungnam, Korea

Jan. 2022

Korea Software Congress 2021

TOP CONFERENCE SESSION FOR ARTIFICIAL INTELLIGENCE

Pyeongchang, Korea

Dec. 2021

Hyundai AIRLab

KEYPHRASE WEIGHTS FOR GENERATIVE QA EVALUATION

Seoul, Korea

Dec. 2021

LG AI Research

RECENT ADVANCES IN TEXT EVALUATION METRICS

Seoul, Korea

July 2021

Academic Services

Reviewer

ACL 2022, EMNLP 2021, AAAI 2021, ACL 2021, SDU@AAAI 2021, EMNLP 2020

Skills

Programming Python, C++

Deep Learning PyTorch, Tensorflow