

Seanie Lee

REGULARIZATION · DATA AUGMENTATION

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Education

KAIST (Korea Advanced Institute of Science and Technology)

Daejeon, S.Korea

PH.D IN ARTIFICIAL INTELLIGENCE

Mar. 2022 -

- Supervised by [Sung Ju Hwang](#) and [Juho Lee](#)
- Research interest: Large Language Models, Safety Alignment, and Efficient Fine-tuning.

KAIST (Korea Advanced Institute of Science and Technology)

Daejeon, S.Korea

M.S. IN ARTIFICIAL INTELLIGENCE

Mar. 2020 - Feb. 2022

- Supervised by [Sung Ju Hwang](#) and [Juho Lee](#)
- Master Thesis: [Data augmentation for natural language processing](#)

Yonsei University

Seoul, S.Korea

B.A. IN LIBRARY AND INFORMATION SCIENCE

Mar. 2011 - Feb. 2018

Experience

Mila

Montreal, Canada

INTERNSHIP

January 2024 - June 2024

- Research internship at Mila, advised by [Yoshua Bengio](#).

Apple

Cambridge, UK

INTERNSHIP

May 2023 - September 2023

- Research internship at Siri team, hosted by [Anders Johansson](#).

Singapore National University

Singapore

INTERNSHIP

July 2022 - September 2022

- Remote internship at [Deep Learning](#) lab, supervised by [Kenji Kawaguchi](#).

Korea Advanced Institute of Science and Technology

Daejeon, S.Korea

TEACHING ASSISTANT

Mar. 2020 - Dec. 2021

- Deep Reinforcement Learning, AI611
- Mathematics for AI, AI503
- Deep Learning, AI502

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Seoul, S.Korea

INTERNSHIP

Feb. 2019 - Jan. 2020

- Research on Question Answering, Semi-supervised Learning, Domain Generalization

Awards

2023 **Apple AI/ML PhD Fellowship**, Recipient of [Apple Scholars in AI/ML](#)

Cupertino, US

2019 **Silver Medal**, Named Entity Recognition in [NAVER NLP Challenge](#)

Seoul, Korea

2019 **Bronze Medal**, Semantic Role Labeling in [NAVER NLP Challenge](#)

Seoul, Korea

Presentation

Tech. talk, Samsung SDS.

Seoul, South Korea

PRESENTATION OF LARGE SCALE SET-ENCODING

22.May. 2023

- Scalable Set Encoding with Universal Mini-Batch Consistency and Unbiased Full Set Gradient Approximation
- ICML 2023

- Generating Diverse and Consistent QA pairs from Contexts with Information-Maximizing Hierarchical Conditional VAEs
- ACL 2020 Long paper

Publication

PREPRINT

Learning Diverse Attacks on Large Language Models for Robust Red-teaming and Safety Tuning

arXiv

SEANIE LEE, MINSU KIM, LYNN CHERIF, DAVID DOBRE, JUHO LEE, SUNG JU HWANG, KENJI KAWAGUCHI, GAUTHIER GIDEL, YOSHUA BENGIO, NIKOLAY MALKIN, MOKSH JAIN

2024

- [\[paper\]](#)

Optimized Speculative Sampling for GPU Hardware Accelerators

arXiv

DOMINIK WAGNER, SEANIE LEE, ILJA BAUMANN, PHILIPP SEEBERGER, KORBINIAN RIEDHAMMER AND TOBIAS BOCKLET

2024

- [\[paper\]](#)

CONFERENCES

Drug Discovery with Dynamic Goal-aware Fragment

ICML

SEUL LEE, SEANIE LEE, KENJI KAWAGUCHI, SUNG JU HWANG

2024

- [\[paper\]](#)[\[code\]](#)

Effective and Efficient Conversation Retrieval for Dialogue State Tracking with Implicit Text Summaries

NAACL

SEANIE LEE, JIANPENG CHEN, JORIS DRIESEN, ALEXANDRU COCA, ANDERS JOHANNSEN

2024

- [\[paper\]](#)

Self-Supervised Dataset Distillation for Transfer Learning

ICLR

DONG BOK LEE*, SEANIE LEE*, JOONHO KO, KENJI KAWAGUCHI, JUHO LEE, SUNG JU HWANG

2024

- [\[paper\]](#)[\[code\]](#)
- *: equal contribution

DiffusionNAG: Task-guided Neural Architecture Generation with Diffusion Models

ICLR

SOHYUN AHN*, HAYEON LEE*, JAEHYEONG JO, SEANIE LEE, SUNG JU HWANG

2024

- [\[paper\]](#)[\[code\]](#)
- *: equal contribution

Scalable Set Encoding with Universal Mini-Batch Consistency and Unbiased Full Set Gradient Approximation

ICML

JEFFREY WILLETTE*, SEANIE LEE*, BRUNO ANDREIS, KENJI KAWAGUCHI, JUHO LEE, SUNG JU HWANG

2023

- [\[paper\]](#)[\[code\]](#)
- *: equal contribution

Margin-based Neural Network Watermarking

ICML

BYUNGJOO KIM, SUYOUNG LEE, SEANIE LEE, SOOEL SON, SUNG JU HWANG

2023

- [\[paper\]](#)

Self-Supervised Set Representation Learning for Unsupervised Meta-Learning

ICLR

DONG BOK LEE*, SEANIE LEE*, KENJI KAWAGUCHI, YUNJI KIM, JIHWAN BANG, JUNG-WOO HA, SUNG JU HWANG

2023

- [\[paper\]](#)
- *: equal contribution

Self-Distillation for Further Pre-training of Transformers

ICLR

SEANIE LEE, MINKI KANG, JUHO LEE, SUNG JU HWANG, KENJI KAWAGUCHI

2023

- [\[paper\]](#)[\[code\]](#)

Set-based Meta-Interpolation for Few-Task Meta-Learning

NeurIPS

SEANIE LEE*, BRUNO ANDREIS*, KENJI KAWAGUCHI, SUNG JU HWANG

2022

- [\[paper\]](#) [\[code\]](#)
- *: equal contribution

On Divergence Measures for Bayesian Pseudocoresets

NeurIPS

BALHAEE KIM, JUNGWON CHOI, SEANIE LEE, YOONHO LEE, JUNG-WOO HA, JUHO LEE

2022

- [\[paper\]](#)

Set Based Stochastic Subsampling

BRUNO ANDREIS, **SEANIE LEE**, A. TUAN NGUYEN, JUHO LEE, EUNHO YANG, SUNG JU HWANG

- [\[paper\]](#)

ICML

2022

Sequential Reptile: Inter-Task Gradient Alignment for Multilingual Learning

SEANIE LEE*, HAE BEOM LEE*, JUHO LEE, SUNG JU HWANG

- [\[paper\]](#)
- *: equal contribution

ICLR

2022

Learning to Perturb Word Embeddings for Out-of-distribution QA

SEANIE LEE*, MINKI KANG*, JUHO LEE, SUNG JU HWANG

- [\[paper\]](#)[\[code\]](#)
- *: equal contribution

ACL

2021

Contrastive Learning with Adversarial Perturbations for Conditional Text Generation

SEANIE LEE*, DONG BOK LEE*, SUNG JU HWANG

- [\[paper\]](#)[\[code\]](#)
- *: equal contribution

ICLR

2021

Meta-GMVAE: Mixture of Gaussian VAE for Unsupervised Meta-Learning

DONG BOK LEE, DONGCHAN MIN, **SEANIE LEE**, SUNG JU HWANG

- [\[paper\]](#)[\[code\]](#)

ICLR

2021

Generating Diverse and Consistent QA pairs from Contexts with Information-Maximizing Hierarchical Conditional VAEs

DONG BOK LEE*, **SEANIE LEE***, WOOTAE JEONG, DONGHWAN KIM, SUNG JU HWANG

- [\[paper\]](#) [\[code\]](#)[\[video\]](#)
- *: equal contribution

ACL

2020

g2pM: A Neural Grapheme-to-Phoneme Conversion Package for Mandarin Chinese Based on a New Open Benchmark Dataset

KYUBYONG PARK*, **SEANIE LEE***

- [\[paper\]](#)[\[code\]](#)
- *: equal contribution

INTERSPEECH

2020