

Joel Jang

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joeljang.github.io ♦ joeljang@kaist.ac.kr

RESEARCH INTERESTS

Temporal/Domain Adaptation of Large Language Models, Continual Learning, Knowledge-Intensive Tasks

EDUCATION

M.S. & Ph.D. (Integrated) in Artificial Intelligence

KAIST, Graduate School of AI | [Language & Knowledge Lab](#)

Advisor: [Minjoon Seo](#)

Seoul, Korea

March 2021 – Present

B.S. in Computer Science and Engineering

Korea University

Advisors: [Jaewoo Kang](#), [Heuiseok Lim](#)

Seoul, Korea

March 2017 – February 2021

PUBLICATIONS

Preprints

[P3] Retrieval of Prompt Tuning Enhances Zero-shot Task Generalization

Seonghyeon Ye, **Joel Jang**, Doyoung Kim, Yongrae Jo, Minjoon Seo

Under Review

[P2] Prompt Injection: Parameterization of Fixed Inputs

Eunbi Choi, Yongrae Jo, **Joel Jang**, Minjoon Seo

Under Review, [\[paper\]](#)[\[code\]](#)

[P1] TemporalWiki: A Lifelong Benchmark for Training and Evaluation Ever-Evolving Language Models

Joel Jang*, Seonghyeon Ye*, Changho Lee, Sohee Yang, Joongbo Shin, Janghoon Han, Gyeonghun Kim, Minjoon Seo

Under Review, [Spa-NLP @ ACL 2022 \(poster\)](#) [\[paper\]](#)[\[code\]](#)

Peer-Reviewed Conference Papers

[C1] Towards Continual Knowledge Learning of Language Models

Joel Jang, Seonghyeon Ye, Sohee Yang, Joongbo Shin, Janghoon Han, Gyeonghun Kim, Stanley Jungkyu Choi, Minjoon Seo

ICLR 2022 (*poster*), [Spa-NLP @ ACL 2022 \(oral\)](#) [\[paper\]](#) [\[code\]](#)

Peer-Reviewed Journal Papers

[J2] Sequential Targeting: A Continual Learning Approach for Data Imbalance in Text Classification

Joel Jang, Yoonjeon Kim, Kyoungcho Choi, Sungho Suh

Expert Systems With Applications (2021) [\[paper\]](#) [\[code\]](#)

[J1] Supervised Health Stage Prediction Using Convolution Neural Networks for Bearing Wear

Sungho Suh, **Joel Jang**, Seungjae Won, Mayank S. Jha, Yong Oh Lee

Sensors (2020) [\[paper\]](#) [\[code\]](#)

(* denotes equal contribution)

WORK IN PROGRESS

[WIP7] Generating the Rationale through Intermediate Instructions Amplifies the Emergent Reasoning Capabilities of Large Language Models

Seungone Kim, Hyungjoo Chae, Sejune Joo, Doyoung Kim, **Joel Jang**, Yongho Song, Jinyoung Yeo

Targeting *ACL 2023*

[WIP6] Do you remember me? Conversation Injection for Continually Learning Chat-agent

Eunbi Choi, Joonwon Jang, **Joel Jang**, Minjoon Seo

Targeting *ACL 2023*

[WIP5] Retrieval of Experts for Zero-shot Task Generalization

Joel Jang, Seungone Kim, Seonghyeon Ye, Kyungjae Lee, Moontae Lee, Minjoon Seo

Targeting *ACL 2023*

[WIP4] Why doesn't your prompt work?

Sohee Yang, Jonghyeon Kim, **Joel Jang**, Seonghyeon Ye, Hyunji Lee, Sangwoo Lee, Minjoon Seo

Targeting *ICLR 2023*

[WIP3] Instruct-Channel for Zero-shot Task Generalization

Seonghyeon Ye, Doyoung Kim, **Joel Jang**, Joongbo Shin, Minjoon Seo

Targeting *ICLR 2023*

[WIP2] Unlearning for Mitigating Privacy Risks in Language Models

Joel Jang, Dongkeun Yoon, Sohee Yang, Sungmin Cha, Moontae Lee, Lajanugen Logeswaran, Minjoon Seo

Targeting *ICLR 2023*

[WIP1] Can Language Models Truly Follow Your Instructions? Case-study with Negated Prompts

Joel Jang*, Seonghyeon Ye*, Minjoon Seo

Submitted to [Inverse Scaling Prize Competition](#), Targeting [NeurIPS 2022 FMDM Workshop](#)

(* denotes equal contribution)

EXPERIENCES

LG AI Research

Seoul, Korea

Research Intern (Mentor : [Moontae Lee](#), [Lajanugen Logeswaran](#))

July 2022 – Present

Working on developing instruction following LMs that can continually learn new tasks.

Kakao Brain

Seongnam, Korea

Research Intern (Mentor : [Ildoo Kim](#))

December 2020 – February 2021

Worked on large-scaled representation learning with weakly supervision of images and caption data using TPUs.

NAVER Corp. | Media Tech Group

Seongnam, Korea

Software Engineer Intern

July 2020 – September 2020

Worked on hate speech detection model, AI Clean Bot 2.0 (40+ million monthly users, >80% of Korean population)

Developed novel method of handling data imbalance using continual learning (paper published under *ESWA*)

Korea Institute of Science and Technology European Research Centre

Saarbrücken, Germany

Research Intern (Mentor : [Yong Oh Lee](#))

August 2019 – January 2020

Worked on anomaly detection & remaining useful life prediction of machinery (paper published under *Sensors*)

Gave an Oral Presentation at *PHM Korea 2020* (2020. 07. 23)

HONORS AND AWARDS

Grand Prize in Graduation Capstone Competition (Best Paper Award), 2020 (*Advisor: [Jaewoo Kang](#)*)
4th place, AI NLP Challenge Enliple Cup, 2020
3rd place, HAAFOR Challenge 2019
Future Global Leader Scholarships, Korea University, 2019
Best Innovation Award, Intel AI Drone Hackathon, 2018

SERVICES

Conference Reviewer

COLING 2022, EMNLP 2022, AKBC 2022

Journal Reviewer

Journal of Artificial Intelligence Research (JAIR)

TEACHING

(KAIST AI599) AI for Law *Fall 2022*
Teaching Assistant (TA)

(KAIST AI605) Deep Learning for NLP *Spring 2022*
Teaching Assistant (TA)

INVITED TALKS

Temporal Adaptation of Language Models *August 2022*
Korean AI Association Summer NLP Session (Host: Minjoon Seo)

Temporal Adaptation of Language Models *July 2022*
KAIST School of Computing (Host: Alice Oh)

Temporal Adaptation of Language Models *May 2022*
Hyperconnect (Host: Buru Chang)

TECHNICAL STRENGTHS

Coding Tensorflow, Pytorch, Huggingface, Pytorch-Lightning, Deepspeed, Wandb
Others Large-scale models, Multi-node parallel training, Spot VM instances, Amazon Mechanical Turk

LANGUAGE PROFICIENCY

Bilingual in English (2004-2016 in US) and Korean (*native*)
GRE: 326 (Verbal, 157/170, 76th Percentile) | Quant, 169/170, 95th Percentile | Writing, 5.0/6.0, 92nd Percentile)
TOEFL: 119/120 (Reading, 30 | Listening, 30 | Speaking, 29 | Writing, 30)
SAT: 1530/1600 (Reading and Writing, 730 | Math, 800)
Conversational in Chinese