Youngjae Yu

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Research Interest

- Developing multimodal intelligent agents with commonsense reasoning capabilities that embody social responsibility.
- Natural Language Processing, Vision and Language Intersection, Commonsense Reasoning, Multimodal Perception

Education

Allen Institute for AI, University of Washington
POSTDOC (YOUNG INVESTIGATOR)
- Mosaic Team (Advisor: Yejin Choi)

Seattle, USA
Mar. 2021 – Mar.2023

Seoul National University
INTEGRATED MS / PH.D PROGRAM , COMPUTER SCIENCE AND ENGINEERING
- Vision and Learning Lab (Advisor: Gunhee Kim)

Seoul, Korea
Mar. 2015 – Feb. 2021

Seoul National University
B.S. , COMPUTER SCIENCE AND ENGINEERING
- 2010 – 2012, Compulsory Military Service. Served as a sergeant in R.O.K Marine Corp.

Seoul, Korea
Mar. 2009 - 2015

Experience

2023-	**Assistant Professor,** Yonsei University
2021-2024	**Young Investigator,** Allen Institute for AI
2018-2021	**Software Engineer, Research Scientist,** Ripple AI
2018	**Research Intern,** Redmond, Microsoft

Publications

2024	Towards Visual Text Design Transfer Across Languages Yejin Choi, Jiwan Chung, Sumin Shim, Giyeong Oh, **Youngjae Yu**	*NeurIPS 2024*
	Can Visual Language Models Resolve Textual Ambiguity with Visual Cues? Let Visual Puns Tell You! Jiwan Chung, Seungwon Lim, Jaehyun Jeon, Seungbeen Lee, **Youngjae Yu**	*EMNLP 2024*
	ActionSwitch: Class-agnostic Detection of Simultaneous Actions in Streaming Videos Hyolim Kang, Jeongseok Hyun, Joungbin An, **Youngjae Yu**, Seon Joo Kim	*ECCV 2024*
	CACTUS: Towards Psychological Counseling Conversations using Cognitive Behavioral Theory Suyeon Lee, Sunghwan Kim, Minju Kim, Dongjin Kang, Dongil Yang, Harim Kim, Minseok Kang, Dayi Jung, Min Hee Kim, Seungbeen Lee, Kyoung-Mee Chung, **Youngjae Yu**, Dongha Lee, Jinyoung Yeo	*EMNLP 2024 (Findings)*
	How to Train Your Fact Verifier: Knowledge Transfer with Multimodal Open Models Jaeyoung Lee, Ximing Lu, Jack Hessel, Faeze Brahman, **Youngjae Yu**, Yonatan Bisk, Yejin Choi, Saadia Gabriel	*EMNLP 2024 (Findings)*

SEP 2020   YOUNGJAE YU · CURRICULUM VITAE   1

	Selective Vision is the Challenge for Visual Reasoning: A Benchmark for Visual Argument Understanding Jiwan Chung, Sungjae Lee, Minseo Kim, Seungju Han, Ashkan Yousefpour, Jack Hessel, **Youngjae Yu**	*EMNLP 2024*
	Tuning Large Multimodal Models for Videos using Reinforcement Learning from AI Feedback Daechul Ahn, Yura Choi, **Youngjae Yu**, Dongyeop Kang, Jonghyun Choi	*ACL 2024 (Oral)*
	Aligning Large Language Models by On-Policy Self-Judgment Sangkyu Lee, Sungdong Kim, Ashkan Yousefpour, Minjoon Seo, Kang Min Yoo, **Youngjae Yu**	*ACL 2024*
	Pearl: A Review-driven Persona-Knowledge Grounded Conversational Recommendation Dataset Minjin Kim, Minju Kim, Hana Kim, Beong-woo Kwak, Soyeon Chun, Hyunseo Kim, SeongKu Kang, **Youngjae Yu**, Jinyoung Yeo, Dongha Lee	*ACL 2024*
	Can Large Language Models be Good Emotional Supporters? Mitigating Preference Bias on Emotional Support Conversation Dongjin Kang, Sunghwan Kim, Taeyoon Kwon, Seungjun Moon, Hyunsouk Cho, **Youngjae Yu**, Dongha Lee, Jinyoung Yeo	*ACL 2024 (Outstanding)*
	HyperCLOVA X Technical Report Jiwan Chung, Sangkyu Lee, **Youngjae Yu**	*TechReport, Arxiv*
	Language Models as Compilers: Simulating Pseudocode Execution Improves Algorithmic Reasoning in Language Models Hyungjoo Chae, Yeonghyeon Kim, Seungone Kim, Kai Tzu-iunn Ong, Beong-woo Kwak, Seonghwan Kim, Taeyoon Kwon, Jiwan Chung, **Youngjae Yu**, Jinyoung Yeo	*EMNLP 2024*
	SMILE: Multimodal Dataset for Understanding Laughter in Video with Language Models Hyun Lee, Kim Sung-Bin, Seungju Han, **Youngjae Yu**, Tae-Hyun Oh	*NAACL 2024*
	CLARA: Classifying and Disambiguating User Commands for Reliable Interactive Robotic Agents Jeongeun Park, Seungwon Lim, Joonhyung Lee, Sangbeom Park, Minsuk Chang, **Youngjae Yu** and Sungjoon Choi	*RA-L/ICRA 2024*
2023	*Localized Symbolic Knowledge Distillation for Visual Commonsense Models* Jae Sung Park, Jack Hessel, Khyathi Chandu, Paul Pu Liang, Ximing Lu, **Youngjae Yu**, Qiuyuan Huang, Peter West, Jianfeng Gao, Ali Farhadi, Yejin Choi and Qiuyuan Huang	*Neurips 2023*
	Reading Books is Great, But Not if You Are Driving! Visually Grounded Reasoning about Defeasible Commonsense Norms Seungju Han, Junhyeok Kim, Jack Hessel, Liwei Jiang, Jiwan Chung, Yejin Son, Yejin Choi and **Youngjae Yu**	*EMNLP 2023 (Oral)*
	VLIS: Unimodal Language Models Guide Multimodal Language Generation Jiwan Chung, **Youngjae Yu**	*EMNLP 2023*
	SODA: Million-scale Dialogue Distillation with Social Commonsense Contextualization Hyunwoo Kim, Jack Hessel, Liwei Jiang, Peter West, Ximing Lu, Youngjae Yu, Pei Zhou, Ronan Le Bras, Malihe Alikhani, Gunhee Kim, Maarten Sap and Yejin Choi	*EMNLP 2023 (Outstanding Paper)*

	Dialogue Chain-of-Thought Distillation for Commonsense-aware Conversational Agents Hyungjoo Chae, Yongho Song, Kai Tzu-iunn Ong, Taeyoon Kwon, Minjin Kim, **Youngjae Yu**, Dongha Lee, Dongyeop Kang and Jinyoung Yeo	*EMNLP 2023*
	Long Story Short: a Summarize-then-Search Method for Long Video Question Answering Jiwan Chung, **Youngjae Yu**	*BMVC 2023*
	CHAMPAGNE: Learning Real-world Conversation from Large-Scale Web Videos Seungju Han, Jack Hessel, Nouha Dziri, Yejin Choi and **Youngjae Yu**	*ICCV 2023*
	Multimodal C4: An Open, Billion-scale Corpus of Images Interleaved With Text Wanrong Zhu, Jack Hessel, Anas Awadalla, Samir Yitzhak Gadre, Jesse Dodge, **Youngjae Yu**, Ludwig Schmidt, William Yang Wang and Yejin Choi	*Neurips 2023*
	Fusing Pre-trained Language Models with Multimodal Prompts through Reinforcement Learning **Youngjae Yu***, Jiwan Chung*, Heeseung Yun, Jack Hessel, Jae Sung Park, Ximing Lu, Prithviraj Ammanabrolu, Rowan Zellers, Ronan Le Bras, Gunhee Kim, Yejin Choi (* equal contribution)	*CVPR 2023*
	Symbolic Chain-of-Thought Distillation: Small Models Can Also "Think" Step-by-Step Wanrong Zhu, Jack Hessel, Anas Awadalla, Samir Yitzhak Gadre, Jesse Dodge, **Youngjae Yu**, Ludwig Schmidt, William Yang Wang and Yejin Choi	*ACL 2023*
	Zero-shot Active Visual Search (ZAVIS): Intelligent Object Search for Robotic Assistants Jeongeun Park, Taerim Yoon, Jejoon Hong, **Youngjae Yu**, Matthew Pan and Sungjoon Choi	*ICRA 2023*
2022	*PROSOCIALDIALOG:A Prosocial Backbone for Conversational Agents* Hyunwoo Kim*, **Youngjae Yu***, Liwei Jiang, Ximing Lu, Daniel Khashabi, Gunhee Kim, Yejin Choi, Maarten Sap (* equal contribution)	*EMNLP 2022*
	NeuroLogic A esque Decoding: Constrained Text Generation with Lookahead Heuristics* Ximing Lu, Sean Welleck, Peter West, Liwei Jiang, Jungo Kasai, Daniel Khashabi, Ronan Le Bras, Lianhui Qin, **Youngjae Yu**, Rowan Zellers, Noah A Smith, Yejin Choi	*NAACL 2022*
	Connecting the Dots between Audio and Text without Parallel Data through Visual Knowledge Transfer Yanpeng Zhao, Jack Hessel, **Youngjae Yu**, Ximing Lu, Rowan Zellers, Yejin Choi	*NAACL 2022*
	MERLOT Reserve: Neural Script Knowledge through Vision and Language and Sound Rowan Zellers, Jiasen Lu, Ximing Lu, **Youngjae Yu**, Yanpeng Zhao, Mohammadreza Salehi, Aditya Kusupati, Jack Hessel, Ali Farhadi, Yejin Choi	*CVPR 2022*
	MERLOT: Multimodal Neural Script Knowledge Models Rowan Zellers*, Ximing Lu*, Jack Hessel*, **Youngjae Yu**, Jae Sung Park, Jize Cao, Ali Farhadi, Yejin Choi	*Neurips 2022*
2021	*Pano-AVQA: Grounded Audio-Visual Question Answering on 360° Videos* Heeseung Yun, **Youngjae Yu**, Wonsuk Yang, and Gunhee Kim	*ICCV 2021*
	Automatic Curation of Large-Scale Datasets for Audio-Visual Representation Learning Sangho Lee*, Jiwan Chung*, **Youngjae Yu**, Gunhee Kim, Thomas Breuel, Gal Chechik, Yale Song (* equal contribution)	*ICCV 2021*
	Transitional Adaptation of Pretrained Models for Visual Storytelling **Youngjae Yu***, Jiwan Chung*, Heeseung Yun, Jongseok Kim, and Gunhee Kim	*CVPR 2021*
	Self-Supervised Learning of Compressed Video Representations **Youngjae Yu***, Sangho Lee*, Gunhee Kim and Yale Song	*ICLR 2021*

	Parameter Efficient Multimodal Transformers for Video Representation Learning Sangho Lee, **Youngjae Yu**, Gunhee Kim, Thomas Breuel, Jan Kautz and Yale Song	*ICLR 2021*
2020	*Dual Compositional Learning for Interactive Image Retrieval* Jongseok Kim, **Youngjae Yu**, Hoeseong Kim and Gunhee Kim	*AAAI 2021*
	Character Grounding and Re-Identification in Story of Videos and Text Descriptions **Youngjae Yu**, Jongseok Kim, Heeseung Yun, Jiwan Chung and Gunhee Kim	*ECCV 2020 (Spotlight)*
2018	*A Joint Sequence Fusion Model for Video Question Answering and Retrieval* **Youngjae Yu**, Jongseok Kim and Gunhee Kim	*ECCV 2018*
2019	*Video Question Answering with Spatio-Temporal Reasoning* Yunseok Jang, Yale Song, Chris Dongjoo Kim, **Youngjae Yu**, Youngjin Kim, Gunhee Kim	*IJCV 2019*
	A Memory Network Approach for Story-based Temporal Summarization of 360° Videos Sangho Lee, Jinyoung Sung, **Youngjae Yu** and Gunhee Kim	*CVPR 2018*
	A Deep Ranking Model for Spatio-Temporal Highlight Detection from a 360° Video **Youngjae Yu**, Sangho Lee, Joonil Na, Jaeyun Kang, Gunhee Kim	*AAAI 2018*
2017	*Supervising Neural Attention Models for Video Captioning by Human Gaze Data* **Youngjae Yu**,Jongwook Choi, Yeonhwa Kim, Kyoung Yu, Sang-hun Lee, Gunhee Kim	*CVPR 2017*
	End-to-end Concept Word Detection for Video Captioning, Retrieval, and Question Answering **Youngjae Yu**,Hyungjin Ko, Jongwook Choi, Gunhee Kim	*CVPR 2017 (Spotlight)*
	TGIF-QA: Toward Spatio-Temporal Reasoning in Visual Question Answering Yunseok Jang, Yale Song, **Youngjae Yu**, Youngjin Kim, Gunhee Kim	*CVPR 2017 (Spotlight)*
	TimesVector: A Vectorized Clustering Approach to the Analysis of Time Series Transcriptome Data from Multiple Phenotypes Inuk Jung, Kyuri Jo, Hyejin Kang, Hongryul Ahn, **Youngjae Yu**, Sun Kim	*Bioinformatics 2017*
2016	*TimesVector: A Vectorized Clustering Approach to the Analysis of Time Series Transcriptome Data from Multiple Phenotypes* Inuk Jung, Kyuri Jo, Hyejin Kang, Hongryul Ahn, **Youngjae Yu**, Sun Kim	*GIW 2016*

Workshop

2020	*Cycled Compositional Learning between Images and Text* **Youngjae Yu** *, Jongseok Kim *, Seunghwan Lee, Gunhee Kim, (* is equal contribution.)	*CVPR 2020 CVFAD*
	Augmenting Data for Sarcasm Detection with Unlabeled Conversation Context Hankyol Lee, **Youngjae Yu**, Gunhee Kim	*In ACL 2020, FLP*
2019	*CurlingNet: Compositional Learning between Images and Text for Fashion IQ Data* **Youngjae Yu**, Seunghwan Lee, Yuncheol Choi, Gunhee Kim	*ICCV 2019 CVFAD*
2017	*Encoding Video and Label Priors for Multi-label Video Classification on YouTube-8M dataset* Seil Na, **Youngjae Yu**, Sangho Lee, Jisung Kim, Gunhee Kim	*CVPR 2017 & YouTube-8M*
2016	*Video Captioning and Retrieval Models with Semantic Attention* **Youngjae Yu**,Hyungjin Ko, Jongwook Choi, Gunhee Kim	*ECCV 2016 LSMDC & VisStory*

Preprints

i-SRT: Aligning Large Multimodal Models for Videos by Iterative Self-Retrospective Judgment
Daechul Ahn, Yura Choi, San Kim, **Youngjae Yu**, Dongyeop Kang, Jonghyun Choi

Arxiv

Scalp Diagnostic System With Label-Free Segmentation and Training-Free Image Translation
Youngmin Kim, Saejin Kim, Hoyeon Moon, **Youngjae Yu**, Junhyug Noh

Arxiv

TRAIT: Personality Testset designed for LLMs with Psychometrics
Seungbeen Lee, Seungwon Lim, Seungju Han, Giyeong Oh, Jiwan Chung, Minju Kim, Yeonsoo Lee, Dongha Lee, Jinyoung Yeo, **Youngjae Yu**

Arxiv

THESIS

2015 | *Correlation Based Feature Selection and Pattern Clustering Method for Time Series Gene Expression Data of Drought Stressed Rice*
Youngjae Yu, Sun Kim

B.S. Thesis

Honors & Awards

2024	**10000$**, Active Learning Framework for Multimodal Action Agents: Integration of Web, Virtual, and Real-World Data	*The Okawa Foundation Grant*
2024	**Outstanding Paper**, Can Large Language Models be Good Emotional Supporters? Mitigating Preference Bias on Emotional Support Conversation	*ACL 2024*
2023	**Outstanding Paper**, SODA: Million-scale Dialogue Distillation with Social Commonsense Contextualization	*EMNLP 2023*
2022	**Best Method Paper**, NeuroLogic A*esque Decoding: Constrained Text Generation with Lookahead Heuristics	*NAACL 2022*
2021	**Best Thesis Award**, College of Engineering, Best Thesis Award	*SNU, College of Engineering*
2021	**Award**, BK Excellent Researcher Award	*SNU*
2021	**Award**, The Best Doctoral Dissertation Award	*SNU CSE*
2020	**130K $ investment**, Leader of RippleAI Team, AI Challenge-NIPA	*Seoul, Korea*
2020	**1st prize**, DramaQA Challenge	*ECCV 2020*
2020	**1st prize**, Fashion IQ 2020 Challenge	*CVPR 2020*
2020	**1st prize**, Sarcasm detection shared task - The Second Workshop on Figurative Language Processing	*ACL 2020*
2019	**2nd prize**, Fashion IQ 2019 Challenge	*ICCV 2019*
2019	**1st prize**, Large Scale Movie Description and Understanding Challenge (LSMDC 2019)	*ICCV 2019 CLVL*
2017	**Fellowship**, NAVER PhD Fellowship award	*NAVER*
2018	**Google Travel Grants**, Grant recipient for attending ECCV 2018 (Munich, Germany)	*Google*
2018	**Kakao Travel Grants**, Grant recipient for attending ICLR 2018 (Vancouver, Canada)	*Kakao*
2017	**1st prize**, Movie Annotation and Retrieval track, Movie Fill-in-the-Blank track - Large Scale Movie Description and Understanding Challenge (LSMDC 2017)	*ICCV 2017 LSMDC & MovieQA*
2016	**1st prize**, Movie Annotation and Retrieval track, Movie Fill-in-the-Blank track - Large Scale Movie Description and Understanding Challenge (LSMDC 2016)	*ECCV 2016 LSMDC & VisStory*