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# So Yeon Tiffany Min

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## EDUCATION

**Carnegie Mellon University**
PhD Student, Machine Learning Department                    *Sep 2020 - Present*
(Advisors: Ruslan Salakhutdinov, Yonatan Bisk)
***Research supported by Apple AI/ ML Research Fellowship***

**Massachusetts Institute of Technology**
Master of Engineering, Computer Science (GPA: 5.0/5.0)      *Jun 2018 - Jun 2020*
***Graduated with Charles & Jennifer Johnson AI and Decision Making Thesis Award, 2nd Place***
(Advisor: Peter Szolovits)

**Massachusetts Institute of Technology**
Bachelor of Science, Elec. Engineering & Comp. Science (GPA: 4.74/5.0)   *Sep 2014 - May 2018*
***Won Peter J. Eloranta Undergraduate Research Fellowship***

## INDUSTRY EXPERIENCE

**Meta Fundamental AI Research (FAIR)**
Research Scientist Intern                                   *May 2023 - Dec 2023*
(Mentors: Roozbeh Mottaghi, Yonatan Bisk, Devendra Chaplot)

- Published paper to ECCV 2024, on LLM agents that navigate uncertain and ambiguous human instructions

**Apple AI/ML**
Research Intern                                            *May 2022 - Dec 2022*
(Mentors: Jian Zhang, Hubert Tsai)

- Published paper to IROS 2023, on leveraging navigation for training indoor visual perception in a self-supervised manner.

## PUBLICATIONS & PRESENTATIONS

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- **So Yeon Min**, Yonatan Bisk, and Ruslan Salakhutdinov. CoT Training of LLM Agents with Hindsight and Foresight rewards. In progress.
- **So Yeon Min\***, Quanting Xie\*, Tianyi Zhang, Kedi Xu, Aarav Bajaj, Ruslan Salakhudtinov, Matthew Johnson-Roberson, and Yonatan Bisk. Embodied-RAG: Nonparametric embodied memory for retrieval and generation. Arxiv Pre-print.
- **So Yeon Min**, Xavi Puig, Devendra Singh Chaplot, Tsung-Yen Yang, Akshara Rai, Priyam Parashar, Ruslan Salakhutdinov, Yonatan Bisk, and Roozbeh Mottaghi. Situated Instruction Following. ECCV, 2024.
- Jimin Sun, **So Yeon Min**, Yingshan Chang, and Yonatan Bisk. Tools Fail: Detecting Silent Errors in Faulty Tools. EMNLP, 2024.
- Yue Wu, Yewen Fan, **So Yeon Min**, Shrimai Prabhumoye, Stephen McAleer, Yonatan Bisk, Ruslan Salakhutdinov, Yuanzhi Li, Tom Mitchell, AgentKit: Flow Engineering with Graphs, not Coding, COLM, 2024.
- Xavier Puig, Eric Undersander, Andrew Szot, Mikael Dallaire Cote, Tsung-Yen Yang, Ruslan Partsey, Ruta Desai, Alexander William Clegg, Michal Hlavac, **So Yeon Min**, Vladimír Vondruš, Theophile Gervet, Vincent-Pierre Berges, John M Turner, Oleksandr Maksymets, Zsolt Kira, Mrinal Kalakrishnan, Jitendra Malik, Devendra Singh Chaplot, Unnat Jain, Dhruv Batra, Akshara Rai, Roozbeh Mottaghi, Habitat 3.0: A co-habitat for humans, avatars and robots, ICLR, 2024.
- Chang, Matthew, Theophile Gervet, Mukul Khanna, Sriram Yenamandra, Dhruv Shah, **So Yeon Min**, Kavit Shah et al. "Goat: Go to any thing.", RSS 2024.
- Yue Wu, **So Yeon Min**, Shrimai Prabhumoye, Yonatan Bisk, Russ R Salakhutdinov, Amos Azaria, Tom Mitchell, and Yuanzhi Li. Spring: Studying papers and reasoning to play games. NeurIPS, 2023.
- Yue Wu, **So Yeon Min**, Yonatan Bisk, Ruslan Salakhutdinov, Amos Azaria, Yuanzhi Li, Tom Mitchell, Shrimai Prabhumoye. "Plan, eliminate, and track–language models are good teachers for embodied agents. ICML Workshop on Knowledge and Logical Reasoning in the Era of Data-Driven Learning, 2023
- Hao Zhu, Raghav Kapoor, **So Yeon Min**, Winson Han, Jiatai Li, Kaiwen Geng, Graham Neubig, Yonatan Bisk, Aniruddha Kembhavi, Luca Weihs. "EXCALIBUR: Evaluating and Encouraging Embodied Exploration." CVPR, 2023.

- **So Yeon Min**, Yaohung Tsai, Ali Farhadi, Ruslan Salakhutdinov, Yonatan Bisk. "Self-Supervised Object Goal Navigation with In-Situ Finetuning." IROS, 2023.

- **So Yeon Min**, Hao Zhu, Yonatan Bisk, and Ruslan Salakhutdinov. "Don't Copy the Teacher: Data and Model Challenges in Embodied Dialogue." EMNLP, 2022.

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- **So Yeon Min**, Devendra Chaplot, Pradeep Ravikumar, Yonatan Bisk, and Ruslan Salakhutdinov. "FILM: Following Instructions in Language with Modular Methods." <u>ICLR, 2022.</u>

- **So Yeon Min**, Preethi Raghavan, Peter Szolovits. TransINT: Embedding Implication Rules in Knowledge Graphs with Isomorphic Intersections of Linear Subspaces. Automated Knowledge Base Construction, 2020.

- Bhanu Pratap Singh Rawat, Wei-Hung Weng, **So Yeon Min**, Preethi Raghavan, Peter Szolovits. Entity Enriched Neural Models for Clinical Question Answering. ACL 2020 BioNLP Workshop.

- **So Yeon Min**, Preethi Raghavan, Peter Szolovits. TransINT: Embedding Implication Rules in Knowledge Graphs with Isomorphic Intersections of Linear Subspaces. NeurIPS KR2ML: Knowledge Representation & Reasoning Meets Machine Learning. 2019

- **So Yeon Min**, Preethi Raghavan, Peter Szolovits. *Advancing Seq2seq Models with Joint Paraphrase Learning*. NeurIPS LIRE: Learning with Rich Experiences Workshop. 2019

- **So Yeon Min**, Preethi Raghavan, Peter Szolovits. *Advancing Semantic Parsing with Joint Paraphrase Learning*. NeurIPS ML4H: Machine learning for Health Workshop. 2019

- Weng WH, Alsentzer E, Jin D, **Min SY**, Raghavan P, Szolovits P. Logical Form Information for Clinical Question Answering. KDD DSHealth

- 2019.Alisha Kamat, Ting Jin, **So Yeon Min,** Flaminia Talos, Jonas Almeida, and Daifeng Wang. 2018. *Interpretable Machine Learning Approach Reveals Developmental Gene Expression Biomarkers for Cancer Patient Outcomes at Early Stages*. In ACM-BCB '18: 9th ACM Int'l Conf. on Bioinformatics, Computational Biology, and Health Informatics, Aug. 29–Sept. 1, 2018, Washington, DC, USA. ACM, New York, NY, USA, 1 page. <u>https://doi.org/10.1145/3233547.3233619</u>

## INVITED TALKS

**Progress and Challenges in Non-parametric and Parametric Components of Embodied Agents**

*Sep 2024*

- Talk given at ECCV 2024 Workshop on Multimodal Agents

**Don't Copy the Teacher: Data and Model Challenges in Embodied Dialogue**

*Jan 2022*

- Talk given at Yonsei University Computer Vision Lab

### FILM: Following Instructions in Language with Modular Methods

*Jan 2022*

- Talk given at GIST Computer Vision Lab

## AWARDS & FELLOWSHIPS

### Apple AI ML Scholars Fellowship

*March 2023*

- Full research fellowship covering stipend and tuition for 2 years of PhD studies

### MIT Charles & Jennifer Johnson AI and Decision Making Thesis Award

*Nov 2019*

- Won 2nd Place for Master's thesis "Towards Knowledge-Based, Robust Question Answering."

### AMIA Natural Language Processing Working Group Pre-Symposium

*Nov 2019*

- Won Best Presentation Award.

### Samsung Tomorrow Solutions

*Oct 2017*

- Samsung Electronics' global competition on socially impactful engineering research proposals and prototypes.
- Won Grand Prize (2nd place), devised a method to compute on-line the relative increase/ decrease of pulse rate variability from low-power wearable devices. Proposed possibilities of predicting user's drunkenness after alcohol consumption from pulse rate variability.

### Peter J. Eloranta Undergraduate Research Fellowships

*Jun 2017*

- Fellowship awarded to 5~6 MIT undergraduates each spring for independent research proposals and prototypes.
- Devised a method to compute on-line the relative increase/ decrease of pulse rate variability from low-power wearable devices.
- Proposed possibilities of predicting user's drunkenness after alcohol consumption from pulse rate variability.

### Tyfone IOT Challenge at MIT

*Sep 2016*

- Software development competition where contestants develop prototype of their proposed IOT device with raspberry pi and Tyfone's secure card.

- Won 3rd place, developed a wearable arrhythmia detection system by applying support vector machine with RBF kernel on ECG data from Physiobank.

**Kwanjeong Education Fellowship, Master's Candidate**

*Jun 2018*
- Fellowship of $25000~$30000 a year awarded to students of Korean citizenship in Master's programs abroad.

**Kwanjeong Scholarship, Bachelor's Candidate**

*Jun 2014*
- Full scholarship awarded to undergraduates with Korean citizenship who study abroad.
- Selected as one of 7 undergraduates in the nation who were awarded the scholarship in the year 2014.

## PROFESSIONAL SERVICES/ TEACHING/ REVIEWING

**Workshop Challenge Organizer** *Feb 2022 - June 2022*
- Member of the organizing team for the ALFRED/ TEACH challenge of Embodied AI workshop at CVPR 2022.

**Advanced Deep Learning, CMU MLD** *Feb 2022 - May 2022*
- Graduate teaching assistant.

**Introduction to Machine Learning, MIT EECS** *Sep 2018 - Jun 2019*
- Graduate teaching assistant.

**EdX Machine Learning (6.86x), MIT EECS** *May 2018 - Aug 2018*
- Graduate teaching assistant.

**NeurIPS 2023**
- Reviewer.

**EMNLP 2022**
- Reviewer.

**Neurips 2019, ML4H**
- Reviewer.

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## SKILLS

- Languages: Korean (Native), English (Native)

- Software: Python (PyTorch, Tensorflow, Django), Java, SQL, LaTEX, Docker, Multiple experiences with embodied AI simulators (THOR, Habitat1~3), Real robot experiences (Stretch, Spot, Locobot)