

# JIHYUNG KIL

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## RESEARCH

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I am interested in **Vision-Language**. Recently, I have focused on the following topics:

- Multimodal Foundation Models: [CVPR'22](#), [ICCV'23](#), [CVPR'24](#), [Preprint: arXiv'24](#), [Preprint: arXiv'24](#)
- Multimodal Agents (Embodied AI, Web Agents): [CVPR'22](#), [CVPR'24](#), [Preprint: arXiv'24](#)
- Visual Question Answering, Scene-Text Understanding: [EMNLP'21](#), [ICCV'23](#), [Preprint: arXiv'24](#)
- Few/Zero-Shot Learning: [NAACL'21](#)

## EMPLOYMENT

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### [Amazon Alexa AI](#)

Research Intern, hosted by Joo-Kyung Kim, Omar Zia Khan

May 2023 - Aug 2023  
Bellevue, WA

- Preprint in arXiv'24. “II-MMR: Identifying and Improving Multi-modal Multi-hop Reasoning in Visual Question Answering”

### [Google Research](#)

Research Intern, hosted by Soravit (Beer) Changpinyo, Hexiang (Frank) Hu, Xi Chen, Radu Soricut

May 2022 - Nov 2022  
Los Angeles, CA

- Published in ICCV'23. “PreSTU: Pre-Training for Scene-Text Understanding”

### [Amazon SimBot Challenge](#)

Team Member, advised by Yu Su

Dec 2021 - Aug 2022  
Columbus, OH

- Developing an intelligent SimBot for language-guided visual navigation and task completion

### [Computer Science and Engineering, The Ohio State University](#)

Graduate Research Assistant, advised by Wei-Lun (Harry) Chao

Aug 2018 - Present  
Columbus, OH

- Published in CVPR'24, ICCV'23, CVPR'22, EMNLP'21, NAACL'21

### [Speech and Hearing Science, The Ohio State University](#)

Research Intern, advised by Yune Lee

Aug 2017 - Jan 2018  
Columbus, OH

- Neural activities classification on fMRI images using ML algorithms

### [Biomedical Informatics, The Ohio State University](#)

Research Intern, advised by Fuhai Li

May 2017 - Aug 2017  
Columbus, OH

- Chemical Named Entity Recognition (CNER) on PubMed abstracts

### [Biomedical Informatics, The Ohio State University](#)

Research Intern, advised by Philip Payne

May 2016 - Aug 2016  
Columbus, OH

- Published in AMIA 2017. “Retrospective Analysis of EHR and Administrative Data for Drug Repurposing Hypothesis Evaluation in Melanoma”

### [Republic of Korea Army](#)

Squad leader, Sergeant

Sep 2012 - June 2014  
Seoul, Korea

- Performing clerical and administrative duties in the military

### [IvyLine Academy](#)

Academic Tutor

May 2011 - Aug 2011  
Seoul, Korea

- Teaching mathematics in Scholastic Assessment Test (SAT)

## EDUCATION

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- The Ohio State University**, Columbus, Ohio, USA Expected 2024  
Ph.D. in Computer Science and Engineering, advised by Wei-Lun (Harry) Chao
- The Ohio State University**, Columbus, Ohio, USA 2023  
M.S. in Computer Science and Engineering, advised by Wei-Lun (Harry) Chao
- The Ohio State University**, Columbus, Ohio, USA 2017  
B.S. in Computer Science and Engineering

## PUBLICATIONS

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### Preprints

- [P2] Boyuan Zheng, Boyu Gou, Jihyung Kil, Huan Sun, Yu Su. “GPT-4V(ision) is a Generalist Web Agent, if Grounded”. In [arXiv'24](#). [paper]
- [P1] Jihyung Kil, Farideh Tavazoei, Dongyeop Kang, Joo-Kyung Kim. “II-MMR: Identifying and Improving Multi-modal Multi-hop Reasoning in Visual Question Answering”. In [arXiv'24](#). [paper]

### Peer-Reviewed Conferences

- [C6] Jihyung Kil, Chan Hee Song, Boyuan Zheng, Xiang Deng, Yu Su, Wei-Lun Chao. “Dual-View Visual Contextualization for Web Navigation”. In [CVPR'24](#). [paper]
- [C5] Jihyung Kil, Soravit Changpinyo, Xi Chen, Hexiang Hu, Sebastian Goodman, Wei-Lun Chao, Radu Soricut. “PreSTU: Pre-Training for Scene-Text Understanding”. In [ICCV'23](#). [paper]
- [C4] Chan Hee Song, Jihyung Kil, Tai-Yu Pan, Brian M. Sadler, Wei-Lun Chao, Yu Su. “One Step at a Time: Long-Horizon Vision-and-Language Navigation with Milestones”. In [CVPR'22](#). [paper]
- [C3] Jihyung Kil, Cheng Zhang, Dong Xuan, Wei-Lun Chao. “Discovering the Unknown Knowns: Turning Implicit Knowledge in the Dataset into Explicit Training Examples for Visual Question Answering”. In [EMNLP'21](#). [paper]
- [C2] Jihyung Kil, Wei-Lun Chao. “Revisiting Document Representations for Large-Scale Zero-Shot Learning”. In [NAACL'21](#). [paper]
- [C1] Kelly Regan, Jihyung Kil, Dongjo Ban, Gregg M. Gascon, Philip R. O. Payne. “Retrospective Analysis of EHR and Administrative Data for Drug Repurposing Hypothesis Evaluation in Melanoma”. In [AMIA'17](#).

### Peer-Reviewed Workshops

- [W1] Reshma R Babu, Yael Stochel, Christopher Lawrence, Daniel Rubenstein, Chuck Stewart, Wei-Lun Chao, David Carlyn, Jihyung Kil, Yu Su, Luke Song, Anuj Karpatne, Mohannad Elhamod, Krzysztof Kozak, Owen McMillan, Tanya Berger-Wolf. “Understanding Mimicry in Butterflies from Images using Machine Learning”. In [CVPR'22 CV4Animals](#).

## HONORS & AWARDS

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- CVPR'24 Doctoral Consortium [\[link\]](#)
- Honorable Mention, in OSU CSE Research Poster Exhibition'21

## TEACHING

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- Teaching Assistant** Aug 2018 - May 2020  
The Ohio State University Columbus, OH
- CSE 2331: Data Structures and Algorithms
  - CSE 2111: Modeling and Problem Solving with Spreadsheets and Databases