

CHAN HEE (LUKE) SONG

<https://chanh.ee>

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EDUCATION

The Ohio State University

Doctoral Student in Computer Science

Advisor: Professor Yu Su

August 2020 - May 2025 (Expected)

University of Notre Dame

Bachelor of Science in Computer Science

Advisor: Professor David Chiang

May 2020

RESEARCH INTERESTS

- Embodied AI
- Multimodal Foundation Model
- Knowledge Base Construction, Interface, Reasoning

PUBLICATIONS

- [1] BioCLIP: A Vision Foundation Model for the Tree of Life
Samuel Stevens, Jiaman Wu, Matthew Thompson, Elizabeth Campolongo, **Chan Hee Song**, David Carlyn, Li Dong, Wasila Dahdul, Charles Stewart, Tanya Berger-Wolf, Wei-Lun Chao, Yu Su
preprint
- [2] LLM-Planner: Few-Shot Grounded Planning for Embodied Agents with Large Language Models
Chan Hee Song, Jiaman Wu, Clayton Washington, Brian M. Sadler, Wei-Lun Chao, Yu Su
In *ICCV 2023* [paper] [Embodied AI workshop, CVPR 2023]
- [3] One Step at a Time: Long-Horizon Vision-and-Language Navigation with Milestones
Chan Hee Song, Jihyung Kil, Tai-Yu Pan, Brian M. Sadler, Wei-Lun Chao, Yu Su
In *CVPR 2022* [paper]
- [4] Using Chinese Glyphs for Named Entity Recognition
Chan Hee Song, Arijit Sehanobish
In *AAAI 2020, Student Abstract* [paper]
- [5] Gazetteer Generation for Neural Named Entity Recognition
Chan Hee Song, Dawn Lawrie, Tim Finin, James Mayfield
In *FLAIRS 33* [paper]

WORKSHOPS

- [1] SalsaBot: Towards a Robust and Generalizable Embodied Agent
Chan Hee Song, Jiaman Wu, Ju-Seung Byun, Zexin Xu, Vardaan Pahuja, Goonmeet Bajaj, Samuel Stevens, Ziru Chen, Yu Su.
In *Embodied AI Workshop, CVPR 2023* [paper]

- [2] Understanding Mimicry in Butterflies from Images using Machine Learning
Reshma R Babu, Yael Stochel, Christopher Lawrence, Daniel Rubenstein, Chuck Stewart, Wei-Lun Chao, David Carlyn, Jihyung Kil, Yu Su, **Chan Hee Song**, Anuj Karpatne, Mohannad Elhamod, Krzysztof Kozak, Owen McMillan, Tanya Berger-Wolf.
In *CV4Animals Workshop, CVPR 2022* [poster]

WORK EXPERIENCES

Adobe Research

May 2023 - August 2023

Research Scientist Intern

- Worked on an open-domain code generation problem with large language models to be integrated into Adobe CC products.

Human Language Technology Center of Excellence @ JHU

May 2019 - August 2019

Visiting Researcher, participant of SCALE

- Introduced a lexical feature generated from gazetteers (lists) to named entity recognition (NER) systems.
- Created an additional annotated NER dataset by replacing entities in the original NER dataset with entities in the collected lists.
- Implemented various state-of-the-art neural architectures such as non-autoregressive models and seq2seq models for named entity recognition task.

Kyndi, Inc. / San Mateo, CA

January 2019 - May 2019

Software Engineering Intern

- Worked on building a system that turns unstructured text data into a knowledge graph and perform NER & QA.
- Migrated in-memory graph to a external database (Neo4J).
- Built a GraphQL server to interact with the external database using React-Apollo client with TypeScript.
- Improved accuracy and representation of the knowledge graph by writing unique graph operations.

GRANTS

Amazon: Alexa Prize Simbot Challenge

2022 - 2023

Team Lead

\$250,000

- Development of next-generation virtual assistants that will assist humans in completing real-world tasks by continuously learning, and gaining the ability to perform commonsense reasoning.
- Co-wrote the grant proposal and led the Ohio State University team.

HONORS, AWARDS & SCHOLARSHIPS

- AAI-2020 Student Scholarship
- Research Scholarship from Flatley Center for Undergraduate Scholarly Engagement at University of Notre Dame, 2019

REVIEWING

- AAI, CVPR 2023
- ACL Rolling Review 2022
- SIGKDD 2021, Secondary Reviewer