Jialu Li

jialuli@cs.unc.edu
jialuli-luka.github.io
(607) 262 2654

EDUCATION

University of North Carolina, Chapel Hill, Chapel Hill, North Carolina
Ph.D., Computer Science   **August 2020 - Present**
Advisor: Professor Mohit Bansal

Cornell University, Ithaca, New York
M.Eng., Computer Science   **August 2018 - December 2020**
Advisor: Professor Claire Cardie

Shanghai JiaoTong University, Shanghai, China
Major: B.S., Computer Science   **September 2014 - June 2018**
Minor: B.E., Finance

RESEARCH INTEREST

Multimodal NLP, Vision-and-Language Navigation

PUBLICATION

Improving Vision-and-Language Navigation by Generating Future-View Image Semantics
CVPR, 2023
Jialu Li, Mohit Bansal

EnvEdit: Environment Editing for Vision-and-Language Navigation
CVPR, 2022
Jialu Li, Hao Tan, and Mohit Bansal

CLEAR: Improving Vision-Language Navigation with Cross-Lingual, Environment Agnostic Representations
Findings of NAACL, 2022
Jialu Li, Hao Tan, and Mohit Bansal

NDH-Full: Learning and Evaluating Navigational Agents on Full-Length Dialogue
EMNLP, 2021
Hyounghun Kim, **Jialu Li**, and Mohit Bansal

Improving Cross-Modal Alignment in Vision Language Navigation via Syntactic Information
NAACL, 2021 (short papers)
Jialu Li, Hao Tan, and Mohit Bansal

Exploring the Role of Argument Structure in Online Debate Persuasion
EMNLP, 2020 (short papers)
Jialu Li, Esin Durmus, and Claire Cardie

PAPER UNDER REVIEW

Anonymous Submission on Data Augmentation for Outdoor Vision-Language-Navigation
Under submission at ICCV 2023
Jialu Li, Aishwarya Padmakumar, Gaurav Sukhatme, and Mohit Bansal

Anonymous Submission on Large Scale Environment Augmentation for Indoor Vision-Language-Navigation
Under submission at ICCV 2023
Wangzun*, **Jialu Li***, Yi Wang, Taesung Park, Qi Wu, Mohit Bansal, Stephen Gould, Hao Tan, Yicong Hong*, Yu Qiao
∗ Equal contribution

ACADEMIC RESEARCH	**University of North Carolina – Chapel Hill**	**August 2020 - Present**

ACADEMIC RESEARCH — **University of North Carolina – Chapel Hill**   **August 2020 - Present**
Advisor: Professor Mohit Bansal

- Enhanced the navigation agent with the ability to generate future view semantics, and utilized the generation ability to aid instruction guided navigation.
- Learned better multi-lingual instruction representation and environment agnostic visual representation with contrastive learning for Vision-and-Language Navigation.
- Proposed an environment-level data augmentation method for Vision-and-Language Navigation to improve agents' generalization to unseen environments.
- Proposed a new task setup that encourages instruction following in Vision-and-Dialogue navigation.
- Utilized syntax information from dependency tree to enhance alignment between the instruction and the visual scenes in Vision-and-Language Navigation tasks.

Cornell University   **February 2019 - May 2020**
Advisor: Professor Claire T. Cardie

- Explored the relationship between argument structure and persuasion in online debates

INDUSTRY EXPERIENCE — **Amazon**   **May 2022 - November 2022**
Applied Scientist Intern
Mentor: Gaurav Sukhatme, Aishwarya Padmakumar

TEACHING EXPERIENCE — **Natural Language Processing (CS 4740 / CS 5740)**   **Cornell University**
Graduate Teaching Assistant   **August 2019 - December 2019**
Instructor: Professor Claire T. Cardie

SERVICE — Reviewer for ARR, ACL 2022, 2023 EMNLP 2022, NAACL 2022, EACL 2022
Reviewer for ACM MM 2022, AAAI 2023, CVPR 2023

HONORS AND AWARDS — Academic Excellence Scholarship (Third-Class) for 2016-2017 academic year
Academic Excellence Scholarship (Third-Class) for 2015-2016 academic year
Academic Excellence Scholarship (Second-Class) for 2014-2015 academic year

REFERENCES

Mohit Bansal   University of North Carolina, Chapel Hill
John R. & Louise S. Parker Professor   *mbansal@cs.unc.edu*

Gaurav Sukhatme   Amazon
Amazon Scholar   *sukhatme@amazon.com*

Aishwarya Padmakumar   Amazon
Applied Scientist   *padmakua@amazon.com*

Claire Cardie   Cornell University
Joseph C. Ford Professor   *cardie@cs.cornell.edu*

Lillian Lee   Cornell University
Charles Roy Davis Professor   *llee@cs.cornell.edu*

Weinan Zhang   Shanghai JiaoTong University
Associate Professor   *wnzhang@sjtu.edu.cn*

SKILLS — **Programming Languages:** Python, C++
Machine Learning Frameworks: Pytorch