

# ABHAY ZALA

[aszala.com](http://aszala.com) | [Google Scholar](https://scholar.google.com/citations?user=asZala) | [GitHub](https://github.com/aszala) | [aszala@cs.unc.edu](mailto:aszala@cs.unc.edu) | [zala.abhay@gmail.com](mailto:zala.abhay@gmail.com)

## EDUCATION

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|-----------|---|------------------------|
| <b>MS</b> | University of North Carolina at Chapel Hill<br>Major: Computer Science<br>Advisor: Professor Mohit Bansal | May 2022 — Present     |
| <b>BS</b> | University of North Carolina at Chapel Hill<br>Major: Computer Science                                    | August 2019 — May 2022 |

## RESEARCH EXPERIENCE

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| <b>University of North Carolina at Chapel Hill</b><br>Advisor: Professor Mohit Bansal | September 2019 — Present |
|---|--------------------------|
- Vision-Language Navigation, 3D Pose Understanding and Image Captioning, Visual Commonsense Reasoning, Multimodal Text-to-Image Analysis, and Video/Moment Retrieval, Segmentation, and Captioning
  - Dataset Generation/Creation, Simulator Development
  - Led technical collaborations on dataset creation with Meta AI researchers
  - Paper Writing

## PUBLICATIONS

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\* Indicates equal contribution

4. **DALL-Eval: Probing the Reasoning Skills and Social Biases of Text-to-Image Generative Models**  
Jaemin Cho, [Abhay Zala](#), Mohit Bansal  
[\[Preprint\]](#)
3. **CoSim: Commonsense Reasoning for Counterfactual Scene Imagination**  
Hyounghun Kim\*, [Abhay Zala\\*](#), Mohit Bansal  
Proceedings of NAACL 2022 [\[pdf\]](#)
2. **FixMyPose: Pose Correctional Captioning and Retrieval**  
Hyounghun Kim\*, [Abhay Zala\\*](#), Graham Burri, Mohit Bansal  
Proceedings of AAAI 2021 [\[pdf\]](#)
1. **ArraMon: A Joint Navigation-Assembly Instruction Interpretation Task in Dynamic Environments**  
Hyounghun Kim, [Abhay Zala](#), Graham Burri, Hao Tan, Mohit Bansal  
Findings of EMNLP 2020 [\[pdf\]](#)

## PRESENTATIONS AND WORKSHOPS

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**Paper Presentation**, “CoSIm: Commonsense Reasoning for Counterfactual Scene Imagination,” NAACL, 2022.

**Paper Presentation**, “FixMyPose: Pose Correctional Captioning and Retrieval,” AAAI, 2021.

**Workshop**, “ArraMon: A Joint Navigation-Assembly Instruction Interpretation Task in Dynamic Environments,” SpLU, 2020.

## INDUSTRY EXPERIENCE

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**Capital One** June 2022 — August 2022  
Machine Learning Intern

**ACL Year-Round Mentorship** October 2021 — Present  
Organizer

**Eclat Engineering** December 2021 — January 2022  
Software Developer Intern

## HONORS AND AWARDS

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**Outstanding Undergraduate Researcher Award**, Honorable Mention 2021  
Computing Research Association (CRA)

## SKILLS

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(#) Indicates years of experience

**Programming:** Python (5+), Java (6+), C# (5+), C/C++ (2+), Git (5+), PyTorch (3+), JavaScript (6+), OpenGL (1), Svelte (2+), jQuery (5+), NodeJS (4+), LaTeX (3+), HTML/CSS (6+), PHP (1+), SQL (1+), MATLAB (1)

**Platforms:** Unity Engine (5+), Amazon Mechanical Turk (3+), Docker (4+), Kubernetes (1+), GitHub (5+), Amazon Web Services (3+), Google Cloud (2+), IBM Cloud (1+), Linux (5+), Windows (5+), MacOS (2+), Google Firebase (4+), Adobe Suite (7+), Autodesk Suite (7+), Microsoft Office Suite (9+), Overleaf (3+)

**Applications:** Machine Learning, Natural Language Processing, Computer Vision, Robotics, Dataset Creation, Simulator Development, Website Development, Software Development, Database Management

## RELEVANT COURSEWORK

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Java Programming, C Programming, Assembly Programming and Hardware Design, Data Structures, Models of Language and Computation, 2D Computer Graphics, Algorithms and Analysis, Modern Web Programming, Data Science, Programming Language Concepts, Compilers, Computational Photography, Machine Learning, Robotics

Linear Algebra, Calculus (I – III), Mechanics and Relativity, Discrete Mathematics, Probability, Data Models and Inference

## OTHER

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- Site Developer/Maintainer of [nlp.cs.unc.edu](http://nlp.cs.unc.edu)
- Site Developer/Maintainer of [perfect-type.com](http://perfect-type.com)
- Site Maintainer of [murgelab.cs.unc.edu](http://murgelab.cs.unc.edu)
- Developed Social Media Platform for Networking
- Developed Online Peer Tutoring Service with AI assistance
- Developed TV Show and Movie Showcase Website
- Developed VR Healthcare Training System
- Developed AI assistant for Presentations
- ACL Year-Round Mentorship Logo Designer

## LANGUAGES

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**English:** Native Language

**Spanish:** Novice Listener, Speaker, Reading, Writing

**Gujrati:** Intermediate Listener, Novice Speaker, Reading, Writing

## REFERENCES

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**Mohit Bansal**, Associate Professor  
University of North Carolina at Chapel Hill

**Hyoungun Kim**, Assistant Professor  
Ulsan National Institute of Science and Technology

**Shruti Patel**, Senior Machine Learning Engineer  
Capital One

**Yegor Kryukov**, Senior Manager for Solutions NLP services  
Capital One