

Kabir Ahuja

PhD Student, University of Washington

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Education

Present	University of Washington	Seattle, US
Sept 2023	PhD, Computer Science and Engineering Advised by Prof. Yulia Tsvetkov	
May 2019	Birla Institute of Technology and Science (BITS) Pilani	Pilani, India
Aug 2015	B.E. (Hons.), Chemical Engineering CGPA: 9.45/10 (Distinction) Department Rank: 1 / 70 (approx.) Thesis Title: Learning To Optimize Molecular Geometries Using Reinforcement Learning	

Experience

Nov 2025	Google DeepMind	Mountain View, CA, US
June 2025	Student Researcher Advisors: Dr. Andrew Lampinen , Dr. Yuxuan Li Worked on multi-modal multi-agent environments for investigating Large Language Models' capabilities for creative communication and subtext.	
June 2023	Microsoft Research	Bangalore, India
Aug 2021	Research Fellow [📄] Advisors: Dr. Sunayana Sitaram , Dr. Monojit Choudhury , Dr. Navin Goyal Worked on understanding in-context learning in language models through a Bayesian perspective. Also worked on building linguistically fair Multilingual Models covering different aspects around their performance, calibration, evaluation, interpretation and data collection.	
Aug 2021	Udaan.com	Bangalore, India
July 2020	Data Scientist Mentor: Dr. Mohit Kumar Worked on implementing and deploying Recommendation Systems to solve numerous use cases across various verticals of the company.	
July 2020	Microsoft Research	Bangalore, India
Jan 2020	Research Intern Advisor: Dr. Navin Goyal Worked on analyzing and contrasting the capabilities of Recurrent Neural Networks and Transformers in recognizing Formal Languages.	
Dec 2019	Indian Institute of Science MALL Lab [📄]	Bangalore, India
June 2019	Research Assistant Advisor: Dr. Partha Talukdar Worked on controlled text generation for generating paraphrases of sentences while following a specified syntactic structure provided in the form of an exemplar sentence.	
Dec 2018	Massachusetts Institute of Technology Green Research Group [📄]	Cambridge, MA, USA
Aug 2018	Visting Student Researcher Advisors: Prof. William H. Green , Prof. Yi-Pei Li Worked on devising Reinforcement Learning based methods for Molecular Geometry Optimization for efficiently finding the local minima of non-convex energy surfaces.	

Publications

S=In Submission, C=Conference, W=Workshop, J=Journal

- [S.1] **Beneath the Surface: Investigating LLMs' Capabilities for Communicating with Subtext** [📄]
[Kabir Ahuja](#), Yuxuan Li, Andrew Kyle Lampinen
Preprint [Arxiv]
- [C.10] **Finding Flawed Fictions: Evaluating Complex Reasoning in Language Models via Plot Hole Detection** [📄]
[Kabir Ahuja](#), Melanie Sclar, Yulia Tsvetkov
Accepted in Conference on Language Modeling [CoLM'25]
- [J.3] **Learning Syntax Without Planting Trees: Understanding When and Why Transformers Generalize Hierarchically** [📄] [code]
[Kabir Ahuja](#), Vidhisha Balachandran, Madhur Panwar, Tianxing He, Noah A. Smith, Navin Goyal, Yulia Tsvetkov
Accepted in Transactions of the Association for Computational Linguistics [TACL]

- [C.9] **DIALECTBENCH: An NLP Benchmark for Dialects, Varieties, and Closely-Related Languages** [🔗][code]
Fahim Faisal, Orevaoghene Ahia, Aarohi Srivastava, Kabir Ahuja, David Chiang, Yulia Tsvetkov, Antonios Anastasopoulos
Association for Computational Linguistics [Best Social Impact Paper Award] [ACL'24]
- [C.8] **In-Context Learning through the Bayesian Prism** [🔗][code]
Kabir Ahuja*, Madhur Panwar*, Navin Goyal
The Twelfth International Conference on Learning Representations, Vienna [ICLR' 24]
- [C.7] **MEGA: Multilingual Evaluation of Generative AI** [🔗][code]
Kabir Ahuja, et al.
The 2023 Conference on Empirical Methods in Natural Language Processing, Singapore [EMNLP' 23]
- [C.6] **On Calibration of Massively Multilingual Language Models** [🔗][code]
Kabir Ahuja, Sunayana Sitaram, Sandipan Dandapat, Monojit Choudhury
The 2022 Conference on Empirical Methods in Natural Language Processing, Abu Dhabi [EMNLP'22]
- [C.5] **Global Readiness of Language Technology for Healthcare: What would it Take to Combat the Next Pandemic?** [🔗]
Kabir Ahuja*, Ishani Mondal*, Mohit Jain, Jacki O'Neill, Kalika Bali, Monojit Choudhury
The 29th International Conference on Computational Linguistics, Gyeongju, Republic of Korea [COLING'22]
- [C.4] **On the Economics of Multilingual Few-shot Learning: Modeling the Cost-Performance Trade-offs of Machine Translated and Manual Data** [🔗][code]
Kabir Ahuja, Monojit Choudhury, Sandipan Dandapat
2022 Annual Conference of the North American Chapter of the Association for Computational Linguistics, Seattle [NAACL'22]
- [C.3] **Multi Task Learning For Zero Shot Performance Prediction of Multilingual Models** [🔗]
Kabir Ahuja*, Shanu Kumar*, Sandipan Dandapat, Monojit Choudhury
60th Annual Meeting of the Association for Computational Linguistics, Dublin, Ireland [ACL'22]
- [C.2] **On the Practical Ability of Recurrent Neural Networks to Recognize Hierarchical Languages** [🔗][code]
Satwik Bhattamishra, Kabir Ahuja, Navin Goyal
28th International Conference on Computational Linguistics [Best Short Paper Award] [COLING'20]
- [C.1] **On the Ability and Limitations of Transformers to Recognize Formal Languages** [🔗][code]
Satwik Bhattamishra, Kabir Ahuja, Navin Goyal
2020 Conference on Empirical Methods in Natural Language Processing [EMNLP'20]
- [J.2] **Learning to Optimize Molecular Geometries Using Reinforcement Learning** [🔗]
Kabir Ahuja, William H. Green, Yi-Pei Li
Journal of Chemical Theory and Computation [Impact Factor: 6.006] [JCTC]
- [J.1] **Syntax-Guided Controlled Generation of Paraphrases** [🔗][code]
Ashutosh Kumar, Kabir Ahuja, Raghuram Vadapalli, Partha Talukdar
Transactions of the Association for Computational Linguistics [TACL]
- [W.2] **The SUMEval 2022 Shared Task on Performance Prediction of Multilingual Pre-trained Language Models** [🔗][code]
Kabir Ahuja, Antonios Anastasopoulos, Barun Patra, Graham Neubig, Monojit Choudhury, Sandipan Dandapat, Sunayana Sitaram, Vishrav Chaudhary
First Workshop on Scaling Up Multilingual Evaluation, ACL, Online [SumEval@ACL'22]
- [W.1] **Beyond Static models and test sets: Benchmarking the potential of pre-trained models across tasks and languages** [🔗]
Kabir Ahuja, Sandipan Dandapat, Sunayana Sitaram, Monojit Choudhury
NLP Power! The First Workshop on Efficient Benchmarking in NLP, ACL, Dublin [NLPPower@ACL'22]

Honours and Awards

Best Social Impact Award in ACL 2024 For our paper: DIALECTBENCH: An NLP Benchmark for Dialects, Varieties, and Closely-Related Languages

Best Short Paper Award in COLING, 2020 [🔗] For our paper: On the Practical Ability of Recurrent Neural Networks to Recognize Hierarchical Languages

Academic Service

Conference Tutorial	<i>Everything you need to know about Multilingual LLMs: Towards fair, performant and reliable models for languages of the world at ACL'23</i>
Workshop Co-Organizer	SumEval Workshop at AACL'22
Peer Reviewer	CoLM 2025, CoLM 2024, ARR October'22, AAAI'23, EMNLP'22, NAACL'22, ACL'22
Research Mentorship	Mentored junior students Aniket Vashishtha at Microsoft Research and Jolie Zhou at University of Washington on research projects.

Teaching and Volunteering Roles

CSE 599J The New AI Story: Empowering Humans in the Age of Machines, University of Washington	<i>Course Staff</i>	
Jan'26 - Mar'26		
CSE 447 / M 547 Natural Language Processing, University of Washington	<i>Teaching Assistant</i>	Sep'25 - Dec'25
CSE 447 / M 547 Natural Language Processing, University of Washington	<i>Teaching Assistant</i>	Sep'24 - Dec'24
Natural Language Processing, Plaksha University	<i>Teaching Assistant</i>	Jan'22 - Apr'22
Neural Networks and Fuzzy Logic, BITS Pilani	<i>Head Teaching Assistant</i>	Jan'19 - May'19
National Service Scheme, BITS Pilani	<i>School Volunteer and Class Head</i>	Aug'15 - May'17