KALPESH KRISHNA

kalpeshk2011@gmail.com ◇ LinkedIn ◇ Github ◇ Twitter ◇ Google Scholar ◇ Semantic Scholar
WEBPAGE: https://martiansideofthemoon.github.io

EMPLOYMENT

Google (Gemini team) — August '23 - Present
Research Scientist — New York, NY

EDUCATION

University of Massachusetts, Amherst — Sept '18 - Sept '23
MS/PhD in Computer Science
(advised by *Prof. Mohit Iyyer*)
Major GPA: 4.0/4.0

Indian Institute of Technology, Bombay — July '14 - July '18
B.Tech in Electrical Engineering, Minor in Computer Science
(advised by *Prof. Preethi Jyothi*)
Major GPA: 9.74/10 (**2nd** *among 66 students*), Minor GPA: 10/10

INTERNSHIPS

Allen Institute for Artificial Intelligence (AI2) — June '22 - August '22
Research Intern under Kyle Lo, Arman Cohan, Pradeep Dasigi — Seattle, WA

Google DeepMind (formerly Google Research) — October '21 - May '22
Student Researcher under John Wieting — Amherst, MA (remote)

Google DeepMind (formerly Google Research) — June '21 - September '21
Research Intern under Partha Talukdar and Bidisha Samanta — Bangalore, India (remote)

Google DeepMind (formerly Google Brain) — May '20 - August '20
Research Intern under Aurko Roy — Mountain View, CA (remote)

Google DeepMind (formerly Google Research) — May '19 - September '19
Research Intern under Gaurav Singh Tomar and Ankur Parikh — New York, NY

Toyota Technological Institute at Chicago — May '17 - July '17
Research Intern under Karen Livescu, Liang Lu and Kevin Gimpel — Chicago, IL

Mozilla Foundation — May '16 - August '16
Google Summer of Code Intern under Armen Zambrano — Mumbai, India / London, UK

AWARDS & SCHOLARSHIPS

- Google PhD Fellowship 2021-23 (list of recipients)
- Distinguished Paper Award, ACM CCS 2023 (5 out of 800 submissions)
- Outstanding Paper Award - EACL 2023 (12 out of 1600 submissions)

- Sharad Maloo Memorial Gold Medal at IIT Bombay
  (For outstanding academic and extra-curricular achievements)
- *Outstanding / Highlight Reviewer* at ACL 2020, 2022; ICLR 2021, 2022 (Top 7-12% reviewers)
- PhD Candidacy with Distinction at UMass Amherst
- Cargill Global Leaders Scholarship 2016-18
  (Awarded by the IIE and Cargill for academic, extra-curricular and leadership achievements)

INVITED TALKS

- Georgia Tech, April 2024
  (Towards robust long-form text generation evaluation)
- University of Texas at Dallas, November 2023
  (Towards robust long-form text generation evaluation)
- University of Pittsburgh, November 2023
  (Towards robust long-form text generation evaluation)
  (Paraphrasing evades detection of AI-generated text, but retrieval is an effective defense)
- NLP with Friends, September 2023
  (Paraphrasing evades detection of AI-generated text, but retrieval is an effective defense)
- IBM Research, July 2023
  (Towards robust long-form text generation evaluation)
- University of Toronto, July 2023
  (Paraphrasing evades detection of AI-generated text, but retrieval is an effective defense)
- Allen Institute for Artificial Intelligence, May 2023
  Google Deepmind, May 2023
  NVIDIA Applied Deep Learning Research, April 2023
  Apple Machine Learning Research, March 2023
  (Towards robust long-form text generation systems)
- University of Washington, September 2022
  (RankGen: Improving Text Generation with Large Ranking Models)
- University of Southern California, July 2021
  University of Texas at Austin, June 2021
  (Progress in text generation & perils of its evaluation)
- Google Research, May 2021
  (Hurdles to progress in long-form question answering)
- IBM Research, April 2020
  (On model extraction attacks on BERT-based APIs)
- AllenNLP Summit at AI2, August 2019
  (Lightning talks on using AllenNLP for education)
- UMass Data Science Research Symposium, April 2019
  (On hierarchical question-answer generation)

ACADEMIC SERVICE

- **Area Chair** for EMNLP 2024, ACL 2024, NAACL 2024, EACL 2024 and workshops
- **Program Committee / Reviewer** for 100+ total papers in EMNLP '19-23; ACL '19-'23; ICLR '21-'25; NAACL '19-'22; NeurIPS '21-'24; ICML '23-'24, EACL '23; IJCV '19; NEJLT '23; COLM '24 and several workshops in NeurIPS, ACL, NAACL, EMNLP

  Outstanding / Highlight Reviewer at ACL 2020, 2022; ICLR 2021, 2022 (Top 7-12% reviewers)
- **Student Volunteer** at ACL '19 (awarded ACL 2019 Student Scholarship), AKBC '19, ICLR '20

TEACHING / MENTORING / OTHER SERVICE

- **Interns**: Satyapriya Krishna (Harvard University) at Google Gemini (Summer 2024)
- **Mentored** five UMass undergraduates on their honors thesis (2019-2021) and four student teams for the industrial mentorship projects (COMPSCI 696) in Spring 2019-2022
- **Co-organized** a weekly talk series "Machine Learning and Friends Lunch" at UMass (2019-22)
- **Graduate Teaching Assistant** at UMass Amherst for *Deep Learning for NLP* (Spring 2019) and *Advanced Natural Language Processing* (Fall 2020)
- **Institute Student Mentor** at IIT Bombay (2017-18)
- **Manager, Web and Coding Club** at IIT Bombay (2016-17)
  Awarded the Institute Organizational Color 2016-17 at IIT Bombay for achievements while leading the Web and Coding Club
- **Teaching Assistant** at IIT Bombay in *Computer Programming* (2016) and *Linear Algebra* (2017)
- **Web Coordinator** for Mood Indigo 2016 at IIT Bombay

PUBLICATIONS AND PREPRINTS

Also see my Google Scholar profile. NeurIPS, ICLR, ACL, EMNLP, NAACL, EACL are top-tier peer-reviewed conferences in ML/NLP with an acceptance rate of 20-30%.

Selected Papers:

* denotes equal contribution / co-lead authors.

1. Fact, Fetch, and Reason: A Unified Evaluation of Retrieval-Augmented Generation
   Satyapriya Krishna, *Kalpesh Krishna**, Anhad Mohananey*, Steven Schwarcz, Adam Stambler, Shyam Upadhyay, Manaal Faruqui
   arXiv 2024

2. Foundational Autoraters: Taming Large Language Models for Better Automatic Evaluation
   Tu Vu*, *Kalpesh Krishna**, Salaheddin Alzubi, Chris Tar, Manaal Faruqui, Yun-Hsuan Sung
   EMNLP 2024

3. Gemini 1.5: Unlocking multimodal understanding across millions of tokens of context
   Gemini Team, Google (*Kalpesh Krishna* listed as a Core Contributor)
   arXiv 2024

4. Gemini: A family of highly capable multimodal models
   Gemini Team, Google (*Kalpesh Krishna* listed as a Core Contributor)
   arXiv 2024

5. FActScore: Fine-grained Atomic Evaluation of Factual Precision in Long Form Text Generation
   Sewon Min*, *Kalpesh Krishna**, Xinxi Lyu, Mike Lewis, Wen-tau Yih, Pang Wei Koh, Mohit Iyyer, Luke Zettlemoyer, Hannaneh Hajishirzi
   EMNLP 2023

6. Paraphrasing evades detectors of AI-generated text, but retrieval is an effective defense
   Kalpesh Krishna, Yixiao Song, Marzena Karpinska, John Wieting, Mohit Iyyer
   NeurIPS 2023

7. LongEval: Guidelines for Human Evaluation of Faithfulness in Long-form Summarization
   Kalpesh Krishna, Erin Bransom, B. Kuehl, Mohit Iyyer, Pradeep Dasigi, Arman Cohan, Kyle Lo
   EACL 2023 (Outstanding Paper Award)

8. RankGen: Improving Text Generation using Large Ranking Models
   Kalpesh Krishna, Yapei Chang, John Wieting, Mohit Iyyer
   EMNLP 2022

9. Hurdles to Progress in Long-form Question Answering
   Kalpesh Krishna, Aurko Roy, Mohit Iyyer
   NAACL 2021

10. Reformulating Unsupervised Style Transfer as Paraphrase Generation
    Kalpesh Krishna, John Wieting, Mohit Iyyer
    EMNLP 2020

11. Thieves on Sesame Street! Model Extraction of BERT-based APIs
    Kalpesh Krishna, Gaurav S. Tomar, Ankur P. Parikh, Nicolas Papernot, Mohit Iyyer
    ICLR 2020

Other Papers:

12. PostMark: A Robust Blackbox Watermark for Large Language Models
    Yapei Chang, *Kalpesh Krishna*, Amir Houmansadr, John Wieting, Mohit Iyyer
    EMNLP 2024

13. GEE! Grammar Error Explanation with Large Language Models
    Yixiao Song, *Kalpesh Krishna*, Rajesh Bhatt, Kevin Gimpel, Mohit Iyyer
    NAACL 2024 (Findings)

14. On the Risks of Stealing the Decoding Algorithms of Language Models
    Ali Naseh, *Kalpesh Krishna*, Mohit Iyyer, Amir Houmansadr
    CCS 2023 (Distinguished Paper Award)

15. ezCoref: Towards Unifying Annotation Guidelines for Coreference Resolution
    Ankita Gupta, Marzena Karpinska, Wenlong Zhao, *Kalpesh Krishna*, Jack Merullo, Luke Yeh, Mohit Iyyer, Brendan O'Connor
    EACL 2023 (Findings)

16. NL-Augmenter: A Framework for Task-Sensitive Natural Language Augmentation
Kaustubh D. Dhole and others
NEJLT 2023

17. SLING: Sino Linguistic Evaluation of Large Language Models
Yixiao Song, *Kalpesh Krishna*, Rajesh Bhatt, Mohit Iyyer
EMNLP 2022

18. Document-Level Literary Machine Translation with Parallel Paragraphs from World Literature
Katherine Thai*, Marzena Karpinska*, *Kalpesh Krishna*, Bill Ray, Moira Inghilleri, John Wieting and Mohit Iyyer
EMNLP 2022

19. Few-shot Controllable Style Transfer for Low-Resource Multilingual Settings
Kalpesh Krishna, Xavier Garcia, Deepak Nathani, Bidisha Samanta, Partha Talukdar
ACL 2022

20. RELiC: Retrieving Evidence for Literary Claims
Katherine Thai, Yapei Chang, *Kalpesh Krishna*, Mohit Iyyer
ACL 2022

21. User and Technical Perspectives of Controllable Code Generation
Stephanie Houde, Vignesh Radhakrishna, Praneeth Reddy, Juie Darwade, Haoran Hu, Kalpesh Krishna, Mayank Agarwal, Kartik Talamadupula, Justin D. Weisz
NeurIPS HCAI workshop 2022 (short paper)

22. Do Long-Range Language Models Actually Use Long-Range Context?
Simeng Sun, *Kalpesh Krishna*, Andrew Mattarella-Micke and Mohit Iyyer
EMNLP 2021

23. Weakly-Supervised Open-Retrieval Conversational Question Answering
Chen Qu, Liu Yang, Cen Chen, W. Bruce Croft, *Kalpesh Krishna* and Mohit Iyyer
ECIR 2021

24. Long Document Summarization in a Low Resource Setting using Pretrained Language Models
Ahsaas Bajaj, Pavitra Dangati, *Kalpesh Krishna*, Pradhiksha Kumar, Rheeya Uppaal, Bradford Windsor, Eliot Brenner, Dominic Dotterrer, Rajarshi Das, Andrew McCallum
ACL Student Research Workshop 2021

25. An Analysis of Frame-skipping in Reinforcement Learning
Shivaram Kalyanakrishnan, Siddharth Aravindan, Vishwajeet Bagdawat, Varun Bhatt, Harshith Goka, Archit Gupta, *Kalpesh Krishna*, Vihari Piratla
arXiv 2021

26. SunPy: A Python package for Solar Physics
Stuart J. Mumford and *others*
JOSS 2020

27. Generating Question-Answer Hierarchies
Kalpesh Krishna, Mohit Iyyer
ACL 2019

28. Syntactically Supervised Transformers for Faster Neural Machine Translation
Nader Akoury, *Kalpesh Krishna*, Mohit Iyyer
ACL 2019

29. Trick or TReAT: Thematic Reinforcement for Artistic Typography
Purva Tendulkar, *Kalpesh Krishna*, Ramprasaath R. Selvaraju, Devi Parikh
ICCC 2019 (Best Presentation Award)

30. Revisiting the Importance of Encoding Logic Rules in Sentiment Classification
Kalpesh Krishna, Preethi Jyothi, Mohit Iyyer
EMNLP 2018 (*short paper*)

31. Hierarchical Multitask Learning for CTC-based Speech Recognition
Kalpesh Krishna, Shubham Toshniwal, Karen Livescu
arXiv 2018

32. A Study of All-Convolutional Encoders for Connectionist Temporal Classification
Kalpesh Krishna, Liang Lu, Kevin Gimpel, Karen Livescu
ICASSP 2018 (*Awarded SPS Travel Grant*)

Other Projects: `https://martiansideofthemoon.github.io/other_projects/`

OTHER ACHIEVEMENTS

- CICS Graduate Fellowship 2018, Victor Lesser Graduate Scholarship 2019 at UMass Amherst
- Selected for JSALT '17, organized by JHU's Center for Language and Speech Processing[2]
- Institute Academic Prize 2015-16 at IIT Bombay
- Top 10 at the Astronomy Olympiad's Indian Selection Camp for IOAA '14, (*20000 candidates*)
- All India Rank 93 in JEE Advanced '14 *(out of 126,000 candidates)*
  All India Rank 34 in JEE Mains '14 *(out of 1,400,000 candidates)*
  All India Top 100 in CBSE XII '14 *(out of 1,000,000 candidates)*
  All India Rank 2 in ICSE '12 *(out of 132,000 candidates)*

  Awarded by Pune city institutions for being the city topper in each of these exams. Featured in the Pune city editions of several newspapers including The Times of India and The Indian Express.
- Passed the National Standard Exam in Physics '14 and National Standard Exam in Chemistry '14, the first rounds in the Indian selection procedure for the International Physics Olympiad and the International Chemistry Olympiad respectively
- Selected for the Kishore Vaigyanik Protsahan Yojana (KVPY) Award '14 (1,000/20,000 applicants)

EXTRA-CURRICULAR

- Board Member of the Hampshire Bird Club in Massachusetts (2022-24)
- **Blogging** - Active blogger on MS/PhD applications, biking, bird photography and computer science. Led development of a beginner's programming wiki with the Web and Coding Club, IITB
- **StackOverflow** - Active contributor in 2016-17, top 6% overall

[2]Couldn't attend due to clashing college schedule

- **Open Source** - Actively contributed to Mozilla in 2015-16 including QoC 2015, GSoC 2016
- **Karate** - Black Belt (1st Dan) trained in Kyokushin Kai for seven years, district level winner
- **Abacus & Mental Arithmetic** - Aloha grandmaster, national and state level winner

Hobbies — birdwatching, macro & bird photography, hiking, biking, reading, star gazing