Maharshi Gor

NLP Researcher · Engineer

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Skill Set

Research Interests:	NLP, Question Answering, Retrievers, Multi-linguality, Deep Learning, Representation Learning
Tools and Technologies:	Python, Java, C/C++, R, Matlab, JavaScript, SQL, Redis, Neo4j, DGraph
Frameworks:	Huggingface, PyTorch, JAX, LangChain, DSPy, T5X, TensorFlow, Keras, Apache Beam, Django, Spring

Education

University of Maryland   *College Park, MD, US*

M.S / Ph.D. in Computer Science — Natural Language Understanding | GPA: 4.0/4.0

Advisors: Prof. Tianyi Zhou and Prof. Jordan Boyd-Graber   *Fall 2021 - Fall 2026*

Visvesvaraya National Institute of Technology (VNIT)   *Nagpur, India*

B.Tech. in Computer Science and Engineering   *July 2012 – May 2016*

Publications and Preprints

Yoo Yeon Sung, **Maharshi Gor**, Eve Fleisig, Ishani Mondal, Jordan Boyd-Graber "Is your benchmark truly adversarial? AdvScore: Evaluating Human-Grounded Adversarialness", *Preprint, 2024* [arXiv]

Maharshi Gor, Tianyi Zhou, Hal Daumé III, Jordan Boyd-Graber "Do great minds think alike? Investigating Human-AI Complementarity in Question Answering with CAIMIRA", *Empirical Methods in Natural Language Processing (EMNLP), 2024* [arXiv]

Gaurang Sriramanan, **Maharshi Gor**, Soheil Feizi, "Toward Efficient Robust Training against Union of L_p Threat Models", *Neural Information Processing Systems (NeurIPS), 2022* [pdf] [Oral at ADVML FRONTIERS, ICML 2022]

Maharshi Gor, Kellie Webster, Jordan Boyd-Graber, "Toward Deconfounding the Influence of Entity Demographics for Question Answering Accuracy", *Empirical Methods in Natural Language Processing (EMNLP), 2021* [pdf] [arXiv]

Julian Martin Eisenschlos, **Maharshi Gor**, Thomas Müller, William W. Cohen, "MATE: Multi-view Attention for Table Transformer Efficiency", *Empirical Methods in Natural Language Processing (EMNLP), 2021* [pdf] [arXiv]

Jogendra Nath Kundu*, **Maharshi Gor***, Dakshit Agrawal, R. Venkatesh Babu, "GAN-Tree: An Incrementally Learned Hierarchical Generative Framework for Multi-Modal Data Distributions", *IEEE International Conference on Computer Vision (ICCV), 2019* [pdf] [arXiv]

Jogendra Nath Kundu*, **Maharshi Gor***, R. Venkatesh Babu, "BiHMP GAN: Bidirectional 3D Human Motion Prediction GAN", *33rd AAAI Conference on Artificial Intelligence, 2019* [pdf] [arXiv]

Jogendra Nath Kundu*, **Maharshi Gor***, Phani Krishna Uppala, R. Venkatesh Babu, "Unsupervised Feature Learning of Action Sequences as Trajectories in Pose Manifold", *IEEE Winter Conf. on Applications of Computer Vision (WACV), 2019* [pdf] [arXiv]

* equal contribution - names listed alphabetically

Research/Work Experience

Contextual.ai   *Mountain View, CA, United States*

Research Intern   *May. 2024 - Aug. 2024*

Reasoning Over Retrievers: Can we compress multiple reasoning step before/after retriever into a singler LLM-based retriever?

Cohere   *Remote, MD, United States*

ML Research Intern | Mentors: Patrick Lewis   *May. 2023 - Aug. 2023*

Investigation into error modes of citation and claim generation quality for Retrieval Augmented Generative (RAG) models.

X, the Moonshot Factory / Google Labs   *Mountain View, CA, United States*

Student Researcher | Mentors: Michele Catasta, Aakanksha Chowdhery, Christian Szegedy   *May. 2022 - Dec. 2022*

Semi-confidential work on long-context document understanding and Code synthesis using external memory based LLMs.

Google Research   *New York, United States*

AI Researcher, NLP | Mentors: Prof. Jordan Boyd-Graber, Prof. William Cohen   *Aug. 2019 - Aug. 2021*

Model Analysis, Interpretability and development of memory-efficient methods for Question Answering

Video Analytics Lab

Bengaluru, India

Visiting Researcher | Advisor: Prof. R Venkatesh Babu

Jan. 2018- Apr. 2019

- **GAN-Tree: An Incrementally Learned Hierarchical Generative Framework for Multi-Modal Data Distributions** [ICCV 2019] ⌂
  – A hierarchical tree framework for Generative Adversarial Networks (GANs) for learning multimodal disjoint data distributions supporting incremental learning of data samples from a new distribution and maintaining persistency across all versions
- **BiHMP GAN: Bidirectional 3D Human Motion Prediction GAN** [AAAI 2019, Spotlight]
  – A generative approach for 3D human skeleton sequences using a novel Discriminator architecture, enabling content loss in a probabilistic framework
  – Shows superiority, both in terms of qualitative and quantitative measures, over previously available state of the art methods for both long-term human motion generation and short-term forecastings.
- **Unsupervised Feature Learning of Action Sequences as Trajectories in Pose Manifold** [WACV 2019, Oral]
  – Modelled sequences of the pose embeddings as a trajectory in the pose manifold.
  – Achieved competitive state-of-the-art results for action recognition task with minimal supervision on labeled information while comparing against previous fully-supervised deep learning approaches.

Amazon

Bengaluru, India

Software Engineer | Amazon Android Appstore

Aug. 2017 - Dec. 2017

- Contributed to re-architecture of the back-end services for App Submission and Catalog Ingestion.
- Contributed to Database migration from Oracle to Postgres

Trilogy Innovations

Bengaluru, India

Software / Innovation Engineer

July. 2016 - July. 2017

- **Semantics Addition and Relevance Improvement of a Search Engine of an intra-org social network using a Knowledge Graph.**
  – Achieved Word Sense Disambiguation through Lexical and Topological Query Enrichment using Community Clustering on KG.
  – Reduced the TP90 response time from 8s to 500 ms
- **Fuzzy Classification System for source code commits of projects on Version Control Systems.**
  – Developed a commit classification system over a VCS and automated it as service for continuous provision of comprehensive details of the kind of contribution made by a developer on/across project(s)
- **A Gamification Framework around agile processes for achieving enhanced productivity of software developers.**
  – Product-designer and primary architect of the core framework.
  – Created 20 new code quality metrics for measurement of various categories of developer productivity.
  – Introduced, developed, and shipped the prototype to the client in 6 months period.

Honors & Awards

2021	**Student Conference Travel Award by EMNLP**, EMNLP 2021	
2021	**Dean's Fellowship and Chair's Fellowship Award**, University of Maryland, College Park	
2019	**Microsoft Research Travel Grant**, AAAI 2019	
2019	**ACM India-IARCS Travel Grant**, AAAI 2019	
2018	**Country Rank (United States) 60, across 100,000 active users**, CodeChef Rankings	*Profile Link*
2013–16	**Top 60 every year, across over 6000+ teams** , ACM ICPC (International Collegiate Programming Contest) on-site Asia Regionals	
2013–15	**Consistent 1st prize Winner**, Freak-O-Matix, the open mathematics Olympiad at VNIT (Undergrad)	
2009-11	**Country Rank (India) 22, State Rank in top 5**, Indian National Mathematics Olympiad (INMO)	

Activities

2024	**Outstanding Reviewer**, EMNLP 2024	
2024	**Reviewer**, ACL ARR 2024 (Feb, April, June, October)	
2021	**Program Committee Member**, Workshops in **ACL 2022**, **NAACL 2022**	
2020-21	**Reviewer**, ICLR 2022, NeurIPS 2021, ACL 2021, EMNLP 2020, ICML 2020, ACL 2020	
2018	**Problem Setter**, MindSpark 18 Codeathon, organized by College of Engineering, Pune on Codechef.	*Pune, India*
2017	**Problem Setter**, CodeAgon 2017 - The All India Hiring Challenge for Codenation Solutions.	*Bengaluru, India*