MohammadHossein Rezaei

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EDUCATION

B.S. in Computer Science | University of Arizona (GPA: 4.0)   AUG. 2022 – DEC. 2025
- Head Teaching Assistant (Course Coordinator) for 5 semesters managing 100+ students in discrete math for CS course
- Activities: Vice Lead of Google Developer Student Club, Peer Mentor, CS Ambassador, Phi Beta Kappa
- Relevant Coursework: Algorithms for Natural Language Processing (NLP), Text Retrieval & Web Search, Analysis of Discrete Structures, Database Design, Object-Oriented Programming, Computer Organization, Linear Algebra

EXPERIENCE

Scale AI | Research Intern, Post-training, *San Francisco, CA*   MAY. 2025 – PRESENT
- Interned on the Machine Learning for Demand Generation (MLDG) team, working with Bing Liu and Feyza Akyürek
- Developed rubric-based reward models for post-training in tasks without verifiable ground-truth answers
- Proposed a novel score aggregation method to improve reward signal quality and end-to-end performance
- Enhanced the effectiveness of human-written and synthetic rubrics through iterative refinement and scaffolding

Stanford NLP Group | Research Intern, *Stanford, CA*   JUN. 2024 – FEB. 2025
- Led a DARPA-funded research project under Diyi Yang and Hao Zhu, resulting in a publication at ACL Findings
- Co-created EgoNormia, a benchmark of 1,853 multimodal QA tasks evaluating embodied decision-making in VLMs [1]
- Developed and maintained frameworks for context-grounded generation, human validation, and a public leaderboard
- Proposed a novel RAG-based approach, exceeding SOTA by 9.4% on held-out and out-of-domain embodied tasks

University of Arizona | Undergraduate Research Assistant, *Tucson, AZ*   MAR. 2023 – PRESENT
- Conducted multiple research projects including two first-author publications at ACL and NAACL among several others
- Introduced two self-supervised further pre-training objectives to improve negation understanding in LLMs [2]
- Explored methods to paraphrase without negation for improving LLM performance when negation is present [3]
- Augmented commonsense data with negation to enhance performance on three general-purpose tasks with five LLMs [4]
- Contributed to a multilingual project on understanding indirect answers to yes/no questions in 8 languages [5]

TECHNICAL SKILLS

- **Languages**: Python, Java, JavaScript, C/C++, MATLAB, R

- **Technologies/Frameworks**: PyTorch, Transformers, TensorFlow, NumPy, Pandas, Scikit-Learn, spaCy, MongoDB, MySQL, PostgreSQL, Node.js, Express.js, React, ROS, AWS (S3, EC2), Jupyter Notebook, Docker, Bash, Git, LaTeX

HONORS AND FELLOWSHIPS

Cornell University | SoNIC Summer Research Workshop *(Topic: Robotics)*   JULY 2023
- Developed a smart assistive cane with ML-based real-time obstacle detection and navigation under Tapo Bhattacharjee
- Ranked 2nd in the individual final test among 40+ participants

University of Arizona | Galileo Circle Scholarship   2024, 2025
- Selected as one of the top 6 students among 1200+ Computer Science students for 2 consecutive years

Iranian Scholarship Foundation | Undergraduate Scholarship   2023 - 2026
- Awarded the highest scholarship as one of 17 students of Iranian heritage selected across the U.S.

Reviewer
- ACL Rolling Review (Feb 2025, May 2025), ICLR 2025

Publications

[1] **MohammadHossein Rezaei***, Yicheng Fu*, Phil Cuvin*, Caleb Ziems, Yanzhe Zhang, Hao Zhu, and Diyi Yang. EgoNormia: Benchmarking Physical Social Norm Understanding. In *Findings of the Association for Computational Linguistics: ACL 2025*, Vienna, Austria, 2025.

[2] **MohammadHossein Rezaei** and Eduardo Blanco. Making Language Models Robust Against Negation. In Luis Chiruzzo, Alan Ritter, and Lu Wang, editors, *Proceedings of the 2025 Conference of the Nations of the Americas Chapter of the Association for Computational Linguistics: Human Language Technologies (Volume 1: Long Papers)*, pages 8123–8142, Albuquerque, New Mexico, April 2025. Association for Computational Linguistics.

[3] **MohammadHossein Rezaei** and Eduardo Blanco. Paraphrasing in Affirmative Terms Improves Negation Understanding. In Lun-Wei Ku, Andre Martins, and Vivek Srikumar, editors, *Proceedings of the 62nd Annual Meeting of the Association for Computational Linguistics (Volume 2: Short Papers)*, pages 602–615, Bangkok, Thailand, August 2024. Association for Computational Linguistics.

[4] Zijie Wang, **MohammadHossein Rezaei**, Farzana Rashid, and Eduardo Blanco. Commonsense knowledge with negation: A resource to enhance negation understanding. *Under Review*, 2025.

[5] Zijie Wang, Md Hossain, Shivam Mathur, Terry Melo, Kadir Ozler, Keun Park, Jacob Quintero, **MohammadHossein Rezaei**, Shreya Shakya, Md Uddin, and Eduardo Blanco. Interpreting Indirect Answers to Yes-No Questions in Multiple Languages. In Houda Bouamor, Juan Pino, and Kalika Bali, editors, *Findings of the Association for Computational Linguistics: EMNLP 2023*, pages 2210–2227, Singapore, December 2023. Association for Computational Linguistics.

[6] **MohammadHossein Rezaei**, Yeaeun Kwon, Reza Sanayei, Abhyuday Singh, and Steven Bethard. CLULab-UofA at SemEval-2024 Task 8: Detecting Machine-Generated Text Using Triplet-Loss-Trained Text Similarity and Text Classification. In *Proceedings of the 18th International Workshop on Semantic Evaluation (SemEval-2024)*, pages 1509–1515, Mexico City, Mexico, June 2024. Association for Computational Linguistics.

[7] Reza Sanayei, Abhyuday Singh, **MohammadHossein Rezaei**, and Steven Bethard. MARiA at SemEval 2024 Task-6: Hallucination Detection Through LLMs, MNLI, and Cosine similarity. In Atul Kr. Ojha, A. Seza Doğruöz, Harish Tayyar Madabushi, Giovanni Da San Martino, Sara Rosenthal, and Aiala Rosá, editors, *Proceedings of the 18th International Workshop on Semantic Evaluation (SemEval-2024)*, pages 1584–1588, Mexico City, Mexico, June 2024. Association for Computational Linguistics.