Mahnaz Koupaee

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Summary

I am an Applied Scientist at Amazon AWS AI. I received my PhD from the Department of Computer Science at Stony Brook University under the supervision of Prof. Niranjan Balasubramanian. At Stony Brook, I was a member of the LUNR (Language Understanding and Reasoning) Lab. Before joining Stony Brook, I received my M.S. in Computer Science at the University of California, Santa Barbara (UCSB) under the supervision of Prof. William Yang Wang. My research is in the field of Natural Language Processing, more specifically, using Large Language Models (LLMs) as primitives to reason about events and model how real-life scenarios unfold. I'm also very much interested in abstractive text summarization, mainly towards more controllable, factual summary generation and automatic summary evaluation using LLMs.

Education

Stony Brook University 2019-2025

PhD in Computer Science, Department of Computer Science

University of California Santa Barbara (UCSB) 2016-2018

M.S in Computer Science, Department of Computer Science

Iran University of Science and Technology (IUST) 2012-2014

M.S in Software Engineering, School of Computer Engineering

Alzahra University 2007-2012

B.S in Computer Engineering, School of Computer Engineering

Publications

P10. **Causal Graph based Event Reasoning using Semantic Relation Experts** ACL 2025

- Mahnaz Koupaee, Xueying Bai, Mudan Chen, Greg Durrett, Nathaneal Chambers, Niranjan Balasubramanian

P9. **Faithful, Unfaithful or Ambiguous? Multi-Agent Debate with Initial Stance for Summary Evaluation** NAACL 2025

- Mahnaz Koupaee, Jake W Vincent, Saab Mansour, Igor Shalyminov, Han He, Hwanjun Song, Raphael Shu, Jianfeng He, Yi Nian, Amy Wing-mei Wong, Kyu J Han, Hang Su

P8. **MuSciClaims: Multimodal Scientific Claim Verification** AACL 2025

- Yash Kumar Lal, Manikanta Bandham, Mohammad Saqib Hasan, Apoorva Kashi, Mahnaz Koupaee, Niranjan Balasubramanian

P7. **SAGEViz: SchemA GEneration and Visualization** EMNLP 2023

- Sugam Devare*, Mahnaz Koupaee*, et al.

P6. **Modeling Complex Event Scenarios via Simple Entity-focused Questions** EACL 2023

- Mahnaz Koupaee, Greg Durrett, Nathaneal Chambers, Niranjan Balasubramanian

P5. **PASTA: A Dataset for Modeling Participant States in Narratives** TACL 2023

- Sayontan Gosh, Mahnaz Koupaee, Isabella Chen, Francis Ferraro, Nathaneal Chambers, Niranjan Balasubramanian

P4. **Don't Let Discourse Confine Your Model: Sequence Perturbations for Improved Event Language Models** ACL 2021

- Mahnaz Koupaee, Greg Durrett, Nathaneal Chambers, Niranjan Balasubramanian

P3. **Author's Sentiment Prediction** COLING 2020

- Mohaddeseh Bastan, Mahnaz Koupaee, Youngseo Son, Richard Sicoli, Niranjan Balasubramanian

P2. **Modeling Preconditions in Text with a Crowd-sourced Dataset** EMNLP 2020

- Heeyoung Kwon, Mahnaz Koupaee, Pratyush Singh, Gargi Sawhney, Anmol Shukla, Keerthi Kumar Kallur, Nathanael Chambers, Niranjan Balasubramanian

P1. Identification of Disease States for Trauma Patients using Commonly Available Hospital Data ICCABS 2018

- Mahnaz Koupaee, Yuanyang Zhang, Tie Bo Wu, Mitchell Cohen, Linda Petzold

Preprints and Others

Effects of Causal Structures on Perceived Causality (under review)

- Mahnaz Koupaee, Niranjan Balasubramanian

WikiHow: A Large Scale Text Summarization Dataset

- Mahnaz Koupaee, William Yang Wang

Analyzing and Interpreting Convolutional Neural Networks

- Mahnaz Koupaee, William Yang Wang

Work Experience

Applied Scientist at Amazon AWS AI 2025-current

Applied Scientist Intern at Amazon AWS AI 2024

- Mentors: Hang Su, Saab Mansour

Applied Scientist Intern at Amazon AGI 2023

- Mentors: Mengwen Liu, Markus Dreyer, Kevin Small

Dissertations

Improved Event Reasoning via Language Modeling and Causality Analyses 2025

- Ph.D. Thesis, Stony Brook University

Abstractive Text Summarization Using Hierarchical Reinforcement Learning 2018
- M.S. Thesis, University of California, Santa Barbara

Other Peer-reviewed Publications

J4. Automatic Test Case Generation from Business Process Models 2019
- Arezoo Yazdani, Mohammad Javad Amiri, Saeed Parsa, Mahnaz Koupaee
- Journal of Requirements Engineering, 24(1), pp. 119-132, 2019.

J3. Data Fusion Techniques in Wireless Sensor Networks: Structured Vs. Structure-Free Approaches 2018
- Mahnaz Koupaee, Mohammad Reza Kangavari
- Journal of Networking Technology, Volume 9.2, pp 41-47, June 2018.

J2. Scalable Structure-free Data Fusion on Wireless Sensor Networks 2017
- Mahnaz Koupaee, Mohammad Reza Kangavari, Mohammad Javad Amiri
- Journal of Supercomputing 73(12), pp 5105-5124, 2017.

J1. Data-driven Business Process Similarity 2017
- Mohammad Javad Amiri, Mahnaz Koupaee
- Journal of IET Software 11(6), pp 309-318, 2017.

Academic Experience

Teaching Assistant, Department of Computer Science, Stony Brook University
- `CSE 538`: Natural Language Processing, Fall 2022
- `CSE 215`: Foundations of Computer Science, Fall 2019

Teaching Assistant, Department of Computer Science, University of California Santa Barbara
- CS 4: Computer Science Bootcamp, Summer 2017
- CS 8: Introduction to Programming (Python programming), Fall 2016, Spring 2017, Spring 2018
- CS 48: Computer Science Project, Winter 2017
- CS 56: Advanced Applications Programming (Java programming), Summer 2018
- CS 64: Computer Organization and Logic Design, Winter 2018
- CS 138: Automata and Formal Languages, Fall 2017

Services

Inclusivity Fellow 2024-2025
- Stony Brook Computer Science Department
- Designing and conducting training sessions for department teaching assistants

Reviewer 2023-current
- ACL Rolling Review
- EACL 2023
- EMNLP 2022, 2021
- AKBC 2021