

Elham Aghakhani

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📍 Philadelphia, PA

🌐 <http://elhamaghakhani.github.io>

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Education

- PhD** **Drexel University**, Information Science Jan 2024 - Now
- MS** **K.N Toosi University of Technology**, Computer Science, AI Oct 2020 - Sep 2023
- GPA: 4/4.0
 - **Thesis:** Automatic Persian Text Summarization using Pre-trained Language Models and Reinforcement Learning.
- BS** **K. N. Toosi University of Technology**, Computer Science Sep 2015 - Sep 2019
- **Thesis:** Implementing an Automatic System to Collect News from News Agencies.

Research Interests

- Natural Language Processing
- Computational Social Science
- Behavioral Modeling

Publications

2025

- **Aghakhani E**, Wang L, Washington KT, Demiris G, Huh-Yoo J, Rezapour R. (2025). From Conversation to Automation: Leveraging LLMs for Problem-Solving Therapy Analysis. Findings of the Association for Computational Linguistics (**ACL**), Vienna, Austria, pp. 25189–25207.
- Bouzouba L, **Aghakhani E**, Rezapour R (2025). *Phenotypes of stigma expressed by people who use drugs on Reddit. (Under review at Social Science and Medicine, Elsevier)*.
- Namvarpour M*, **Aghakhani E***, Ekstrand MD, Rezapour R, Razi A. (2025). *The Evolving Landscape of Youth Online Safety: Insights from News Media Analysis. WebSci'25*. *Equal contribution.
- Wang L, Lynch D, **Aghakhani E**, Demiris G, Washington K, Rezapour R, Huh-Yoo J. (2025) *AnnoLoom: Augmenting Codebook Generation and Annotation with Large Language Models*. Proceedings of the Association for Information Science and Technology.

2024

- Bouzoubaa L, **Aghakhani E**, Rezapour R. (2024). Words Matter: Reducing Stigma in Online Conversations about Substance Use with Large Language Models. In Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing (**EMNLP**) Nov 2024.
- Bouzoubaa L, **Aghakhani E**, Song M, Trinh M, Rezapour R. (2024). Decoding the Narratives: Analyzing Personal Drug Experiences Shared on Reddit. The 62nd Annual Meeting of the Association for Computational Linguistics (**ACL**) Findings.

Peer Review Activities

- Reviewer, *ICWSM 2025*
- Reviewer, *ACL 2025*
- Reviewer, *NAACL 2024*

- Reviewer, *EMNLP 2024*

Experience

Instructor of Record

- **Drexel University:** Introduction to Data Science (INFO103-900) – Summer 2025

Teaching Assistant

- **Drexel University:**
 - Web Systems and Services (INFO151) - Fall 2025
 - Social Collaborative and Computing (INFO616) – Winter 2025
- **K. N. Toosi University of Technology:**
 - Probabilistic Graphical Models – 2021–2022
 - Machine Learning – 2021–2022
 - Statistical Pattern Recognition – 2021–2022

Research Assistant

- **Drexel University** (Jan 2024 – Present)
 - Worked on NLP and Computational Social Science projects involving social media, therapy conversations, and news framing.
 - Led data processing, model development, and experimental design using Large Language Models (LLMs).
 - Collaborated on manuscripts and contributed to publications in top NLP venues (ACL, EMNLP).

Industry Experience

- **ERON Company**, Web Developer (Sep 2019 – Mar 2020)
 - Designed and built databases, web applications, and webpages using backend technologies.
- **VADA House of Mobile**, Web Developer (Jan 2019 – Sep 2019)
 - Designed and implemented web applications and APIs using PHP and Laravel.

Projects

Persian Question-Answering with T5

- A Question Answering model for persian QA dataset. In this project, T5 model is fine-tuned for Question Answering task using HuggingFace Transformers, pytorch Lightning & Python.
- Repo: <https://github.com/elhamaghakhani/Persian-Question-Answering-with-T5>

Shereno: A Dataset of Persian Modernist Poetry

- Web scraped from shereno.com, a large corpus of Persian modernist poems. Along with each poem, its metadata have also been scraped such as poem name, poet name and its book name.
- Repo: <https://www.kaggle.com/datasets/elhamaghakhani/persian-poems>

Sentiment Analysis of Google Play Reviews by BERT

- In this project we BERT is fine-tuned for the task of sentiment analysis of Google Play reviews. the required text pre-processing (special tokens, padding, and attention masks) and building a Sentiment Classifier using the amazing Transformers library by HuggingFace is implemented.
- Repo: <https://github.com/elhamaghakhani/Review-Analysis-by-BERT>

Job Searching website

- A job searching and posting website, implemented with PHP programming language, laravel framework and front-end web development skills. In this website, users can register, login as well as post a job or search through posted jobs by filters.
- Github Repo: https://github.com/elhamaghakhani/job_search

Awards, Fellowships, and Highlights

Selected to attend the 8th Annual Summer Institute in Computational Social Science, University of Pennsylvania

Philadelphia, PA
July 2024

Certifications

Natural Language Processing, Coursera (Aug 2021):

- Credential ID: 5WUJGRXXP22V

Machine learning in python with scikit-learn, France Universite Numerique (Jul 2021):

- Credential ID: 4TD52DHM5TCD

Deep Learning workshop, IEEE Iran section (Mar 2021):

- Credential ID: 147474

Technologies

Languages: Python, Java, SQL

Libraries: Pytorch, Keras, Scikit-Learn, HuggingFace, Numpy, Pandas