

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