



CONTACT

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📍 Department of Computer & Electronic Engineering, University of Zanjan, Zanjan, Iran.

SKILLS

Programming

Python

Matlab

C, C++

Haskell,Racket

TensorFlow

PyTorch

Hadoop,Spark,Hive

Regular expressions

Relational databases

Database design

(Postgres, MySQL

SQLServer, MangoDB)

LaTeX

Project Experience

Deep Learning

Machine Learning

NLP

Data Mining

Bioinformatics

Statistics

Software & Tools

Visualisation

(e.g. Knime,matplotlib, ...)

Data handling/analysis

(e.g. numpy, scipy, pandas, ...)

Docker

UML

Office

Languages

English

Turkish

Persian

Arabic

WORK HISTORY & EXPERIENCES

📅 2003-now	📍 University of Zanjan, Zanjan, Iran	Associate Professor
📅 2016-2020	📍 University of Zanjan, Zanjan, Iran	Head of the Department of Computer Engineering
📅 2005-2007	📍 University of Zanjan, Zanjan, Iran	Head of the Department of Computer Engineering
📅 2003	📍 Informatics Services software company, Tehran,Iran	Analyst and Chief Programmer
📅 2001	📍 Dadevarzi Jame Pardaz software company, Tehran, Iran	Analyst and Chief Programmer

EDUCATION

📅 2011-2015	📍 University of Sydney, Sydney, Australia	PhD in Software Engineering
		Thesis title:A Clinical Data Analytics Language(CliniDAL)
📅 2000-2003	📍 University of Shahid Beheshti, Tehran, Iran	MSc. in Software Engineering
		Thesis title: A Framework for Introducing and Evaluating Software Development Methodologies
📅 1996-2000	📍 Sharif University of Technology, Tehran, Iran(The best engineering school in Iran)	BSc. in Software Engineering
		Thesis title: A Comprehensive Information System for Research Activities in Iran (ASP based website)
📅 1992-1996	📍 Farzaneghan Talented High School, Zanjan, Iran	Diploma in Mathematics & Physics

ACHIEVEMENTS, HONOURS AND AWARDS

- 🏆 A national ranking of 234 out of 212474 and a district ranking of 88 out of 96369 applicants for university entrance examinations
- 🏆 A master’s degree admission exam score of 103 nationwide

RESEARCH INTERESTS

Machine Learning

Deep Learning

Information Retrieval

NLP with Deep learning

Machine learning techniques for Bioinformatics

Natural Language Understanding

Natural Language Generation

Text Mining in Medical Domain

COURSES TAUGHT

NLP with Deep Learning

Statistical NLP

Compiler design

Big data Analytic with Hadoop

Programming Languages Design

Software Engineering

Theory of Machines and Languages

Advanced Programming(C++, Python)

Object Oriented Analysis & Design

Functional Programming (Haskell,Racket)

PUBLICATIONS

Journal Papers

- Parman Mohammadalizadeh, Leila Safari. MT-TeXTableX: a multitask learning approach to table-to-text generation, *Expert Systems with Applications*, 2026 Volume 296, Part B, 2026, 129060, ISSN 0957-4174, <https://doi.org/10.1016/j.eswa.2025.129060>.
- Roghayyeh Alipanahi, Leila Safari, Alireza Khanteymoori, Advancing CRISPR with Deep Learning: A Comprehensive Review of Models and Databases, *Molecular Therapy-Nucleic Acids*, 2025, 102691, ISSN 2162-2531, <https://doi.org/10.1016/j.omtn.2025.102691>.
- Parman Mohammadalizadeh, Leila Safari. A Novel Benchmark for Persian Table-to-Text Generation: A New Dataset and Baseline Experiments, *ACM Transactions on Asian and Low-Resource Language Information Processing*, 2025 Volume 24, Issue 8, Article No.: 87, Pages 1 - 17, <https://doi.org/10.1145/374864>.
- Sepideh Nahali, Leila Safari, Alireza Khanteymoori, Jimmy Huang. StructmRNA: A BERT-based Model with Dual Level and Conditional Masking for mRNA Representation, *Scientific Reports*, Nature 14, 26043 (2024). <https://doi.org/10.1038/s41598-024-77172-5>.
- Roghayyeh Alipanahi, Alireza Khanteymoori, Leila Safari. DTMP-Prime: A Deep Transformer-based Model for Predicting Prime Editing Efficiency and PegRNA Activity, *Molecular Therapy - Nucleic Acids*, Volume 35, Issue 4, 2024, 102370, ISSN 2162-2531, <https://doi.org/10.1016/j.omtn.2024.102370>.
- Rogaye Alipanahi, Leila Safari, Alireza Khanteymoori. CRISPR genome editing using computational approaches: A survey. *Frontiers in Bioinformatics*, <https://doi.org/10.3389/fbinf.2022.1001131>.
- Ali Jrrahi, Leila Safari. Evaluating the effectiveness of publishers features in fake news detection on social media. *Multi-media Tools and Application* (2022). <https://doi.org/10.1007/s11042-022-12668-8>.
- Masumeh Babakhani, Davud Mohammadpur Leila Safari, A method for protecting access pattern in outsourced data, *Soft Computing Journal*, 8 (2019), May 2019, 2-13.
- Leila Safari, Jon D. Patrick. An enhancement on Clinical Data Analytics Language (CliniDAL) by integration of free text concept search. *Journal of Intelligent Information systems*. 52 (2019), 1 (Feb 2019), 33-5.
- Leila Safari, Jon D. Patrick. Complex analyses on clinical information systems using restricted natural language querying to resolve time-event dependencies. *Journal of Biomedical Informatics*. 2018 Jun; 82:13-30.
- Leila Safari, Jon D. Patrick, Restricted natural language based querying of clinical databases, *Journal of Biomedical Informatics*, 52(2014): 338-353.
- Mojgan Sadegian, Soheila Dadjoo, Majid Meghdadi, Leila Safari, The design, and construction of intelligent taxi electronic payment system solution, *The Journal of Intelligent Control and Automation*, 2(2011): 413-417.
- Zanyar Mohammady, Leila Safari, A semi-supervised method to generate Persian dataset for suggestion classification, *Language Resources and Evaluation* 58, 839-858 (2024).

Submitted Papers

- Seyed Mohammad Hossein Hashemi, Leila Safari, Amirhossein Dadashzadeh Taromi. Realism in Action: Anomaly-Aware Diagnosis of Brain Tumors from Medical Images Using YOLOv8 and DeiT.
- Sepideh Nahali, Jimmy Huang, Leila Safari, Alireza Khanteymoori. Representation learning on RNA sequences techniques, applications, and performance: A survey, *Nature machine intelligence Journal*.
- Parman Mohammadalizadeh, Leila Safari. A comprehensive survey on table-to-text generation: datasets, approaches, challenges and evaluation metrics. *ACM Computing Surveys*.
- Sarina Sefidgarhoseini, Leila Safari, Drug-Drug interaction extraction using transformer-based ensemble model.
- Samane Ghafari Sabil, Leila Safari, Mohsen Afsharchi, Drug-Drug interaction extraction using transformer-based ensemble model.
- Mahshid Moulaei, Leila Safari, Kian Sahafi, A Hybrid Transformer-Based Approach for Self-Esteem Detection.

PUBLICATIONS

Conference Papers

- Elham Bagheri, Leila Safari, Intelligent Detection of Parkinson Disease based on Deep Learning and Fuzzy Logic 19th International Conference on Health, Treatment and Health Promotion, 9 April 2025.
- Leila Safari, Leveraging Large Language Models and Deep Transformers in CRISPR-based Genome Editing, 4th International Conference and 13th National Conference on Bioinformatics of Iran, 4-6 February 2025
- Roghayyeh Alipanahi, Leila Safari, Alireza Khanteymoori, Encoding the gRNA-DNA Pairs with Deep Transformers to Predict off-target Effects of CRISPR, 4th International Conference and 13th National Conference on Bioinformatics of Iran 4-6 February 2025
- Elham Bagheri, Leila Safari, A Transformer-based Model for Diagnosis of Multiple Sclerosis using MRI Images, 4th International Conference and 13th National Conference on Bioinformatics of Iran, 4-6 February 2025
- Parvin Sadeghirad, Leila Safari, A transformer-based Multimodal Approach For Cyberbullying Detection, The 7th International Conference on Electrical Engineering, Computer, Mechanics and Artificial Intelligence, 2024-06-20
- Zeynab Arman, Leila Safari, Kian Sahafi, Alireza Khanteymoori Hybrid Deep Learning-based Model for Off-target Prediction in CRISPR System, The 3rd International and 12th National Iranian Conference in Bioinformatics, 2024-02-28 TO 2024-02-29.
- Saeedeh Karimi, Hossein A. Rahmani, Mohammadmehdi Naghiaei, Leila Safari, Provider Fairness and Beyond-Accuracy Trade-offs in Recommender Systems, 6th FAccTRec Workshop: Responsible Recommendation, September 2023.
- Hedieh Geranmayeh, Leila Safari, Predicting the state of Arginine Methylation Using Deep Learning Methods, The 13th National Conference of Applied Researches in Electrical and Computer Science and Medical Engineering, <https://civilica.com/doc/1547849>.
- Sepideh Nahali, Leila Safari, IsoGloVe: A new graph embedding method based on geodesic distance, CANAI, Montreal, Canada, 2023.
- Sepideh Nahali, Hajer Ayadi, Jimmy Huang, Esmat Pakizeh (Kharazmi University), Mir Mohsen Pedram, Leila Safari) A dynamic and task-independent reward shaping approach for discrete partially observable markov decision processes, PAKDD, Osaka, Japan, 25-28 May 2023.
- Roghayyeh Alipanahi Leila Safari, Alireza Khanteymoori. A new encoding model based on gRNA-DNA pairs to predict off-target effects of genome editing with CRISPR/Cas9, The 2nd international and 11th national Iranian Conference on Bioinformatic Tehran-Iran 28 Feb-1 Mar 2023, ICB11.2023.
- Parisa Naderi Golshan, Hossein Ali Rahmani Dashti, Shahrzad Azizi, Leila Safari. A study of recent contributions on information extraction, 4th National Conference on Distributed Computing and Big Data Processing, Tabriz, Iran, 2018.
- Leila Safari, Jon D. Patrick. ShARe/CLEF eHealth 2013, Normalization of acronyms/abbreviations challenge, proceeding of CLEF, 2013.
- Leila Safari, Jon D. Patrick. ShARe/CLEF eHealth 2013, Named entity recognition and normalization of disorders challenge, proceeding of CLEF, 2013.
- Leila Safari, Jon D. Patrick. A temporal model for clinical data analytics language, in Proc. 35th Annual International Conference of the IEEE EMBS, Osaka, Japan, 2013, pp. 3218-3221.
- Leila Safari, Jon D. Patrick. Mapping query terms to data and schema using content based similarity search in clinical information systems, in Proc. 35th Annual International Conference of the IEEE EMBS, Osaka, Japan, 2013, pp. 4779-4782.
- Leila Safari, Jon D. Patrick, Yuzhung. Cheng, Knowledge discovery and knowledge reuse in clinical information systems, in Proc. the 10th IASTED International Conference on Biomedical Engineering (BioMed 2013), Innsbruck, Austria, 2013, pp. 228-236.
- Leila Safari, Mohsen Afsharchi, Behrouz Far. Concepts in action: performance study of agents learning ontology concepts from peer agents, ICCART 2009.

Books

- Object Oriented Design of Software Systems with UML (in Persian), Publisher: Kimiaasar, Tehran, Iran, 2006.

PROFESSIONAL ACTIVITIES

Reviewer

- Engineering Applications of Artificial Intelligence
- Journal of the American Medical Informatics (JAMIA)
- Computers in Biology and Medicine
- Informatics in Medicine Unlocked
- Annals of Robotics and Automation
- Tabriz Journal of Electrical Engineering (TJEE)
- Technical reviewer of grant applicant projects at Zanjan Science and Technology Park
 - Intelligent management of nurses' shifts
 - Integrated intelligent system for search engine optimisation of commercial websites
 - Specialised website for online medical appointments and consultations
 - A multi-purpose website generation platform

Committee Member

- Member of the Virtual Education Committee of University of Zanjan
- Executive committee member of Electronic Learning conference of University of Zanjan
- Participation in the preparation of standards for printers in the Department of Standards of Zanjan province

Technical Presentations

- 35th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Osaka, Japan, 3-7 July, 2013
- The 10th IASTED International Conference on Biomedical Engineering (BioMed) 13-15 February, 2013)
- Presentation for Clinical specialist at the ICU section, Royal Prince Alfred Hospital (RPAH), Sydney, Australia, October 2014

Other Activities

- Management of PhD Students biweekly presentation sessions at the Department of Computer Engineering, University of Zanjan (2016-2021)
- Establishment and management of final project defense event for Bachelor's students (2016-2021)
- Team preparation, management and coaching for International Collegiate Programming Contest(ICPC) Asia, Tehran, Regional contest, 2019 and 2020

CERTIFICATES

- CLEF eHealth challenge 2013
- Founder of NLP Lab at the Department of Computer Engineering, University of Zanjan
- Establishment of Bioinformatics program for Master's degree at the Department of Computer Engineering, University of Zanjan, September 2020
- Establishment of Hardware program for Bachelor's degree at the Department of Computer Engineering, University of Zanjan, September 2020

STUDENTS AND PROJECTS BEING SUPERVISED

Student Name	Degree	Research Topic	Collaborators	Status
Parman Mohammadalizade	PhD	Table To Text Generation		In progress
Ramin Nourizade	PhD	Multi-modal Alzheimer Detection	Dr.Alireza Khanteymoori	In progress
Mohammad Mahmoodi	PhD	Machine Translation		In progress
Sepide Nahali (Visiting PhD Student at IR lab, York University, Canada)	PhD	mRNA Degradation Prediction Using a Pre-trained Biological Language Model	Dr.Alireza Khanteymoori, Dr. Jimmy X. Huang	In progress
Rogaye Alipanahi	PhD	Predicting the Precision of Genomic Editing with CRISPR-based Approach Using a Deep Learning Model	Dr. Alireza Khanteymoori	In progress
Ali Jarrahi	PhD	A Practical Model for Automatic fake News Detection on Social Media		Finished
Omid Zehtab	Master's	An stage-based method for evaluating summarization approaches		In progress
Ali Jahangiri	Master's	A Deep Learning-based Approach for Cancer Detection		In progress
Amin Shahbaghi	Master's	Summarization of Persian Text using Transformer-based Approaches		In progress
Saman Khalilinia	Master's	A method to identify Exosomal miRNAs using deep learning Approaches		Finished
Elham Bagheri	Master's	A Multi-modal approach for MS disease classification		Finished
Mahsheed Molayi	Master's	A Transformer-based Hybrid Approach for Self-esteem Detection		Finished
Samaneh Ghaffari	Master's	A new approach for password guessing based on GAN	Dr. Mohsen Afsharchi	Finished
Zeynab Arman	Master's	A hybrid deep learning-based model to predict off-target locations in Crispr system	Dr. Alireza Khanteymoori	Finished
Mehdi Shirdeli	Master's	Multimodal Sentiment Analysis for Bilingual Persian-English Text		Finished
Saeideh Karimi	Master's	a method to improve provider fairness in recommendation systems by re-ranking techniques		Finished
Parvin Sadeghirad	Master's	A Transformer-based Method For Cyberbullying Detection In English Text		Finished
Sarina Sefidgarhoseini	Master's	Detection of drug-drug interactions in medical texts with the help of deep learning methods		Finished
Masoud Zokaei	Master's	A Deep Neural Network-based Approach for Hate Speech Detection in Persian Text		Finished
Zanyar Mohammadi	Master's	Suggestion Classification on Persian Text		Finished
Mehdi Rafiei	Master's	Transformer-based Sarcasm Sentiment Recognition in Reddit Data		Finished
Mostafa Delavari Safsari	Master's	Stock Market Price Prediction based on Generative Adversarial Networks		Finished
Ramin Mousa	Master's	Weighted Deep Neural Network Ensemble Approach for Multi-Domain Sentiment Analysis		Finished
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Parmida Pourmatin	Bachelor's	Summarization of Persian Text Using Page Rank Algorithm and Embeddings	Amin Shahbaghi	Finished
Mohammad Hossein Hashemi	Bachelor's	Brain Tumor Classification Using CNN and Machine Learning Algorithms		Finished
Zahra Kheiryashkuh	Bachelor's	Fake News Detection in Persian Text using ParsBERT		Finished
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REFERENCES

1. Jon Patrick PhD, Professor | CEO

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(Former Faculty Member of the School of Information Technologies, University of Sydney)

2. Alireza Khanteimoori, Associate Researcher

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(Former Faculty Member (Assistant Professor) of the Department of Computer Engineering, University of Zanjan)

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(Former President of the Engineering Department of the University of Zanjan)

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(Former President of Zanjan Province Science and Technology Park)