

Yasaman Boreshban

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EDUCATION

Sharif University of Technology

Tehran, Iran

Ph.D. in Computer Engineering - Artificial Intelligence

2018 - present

GPA: 17.58/20

Thesis Title: Improving Robustness of Question Answering Systems using Deep Neural Networks

Supervisor: Dr. Gholamreza Ghassem-Sani

Adviser: Dr. Seyed Abolghasem Mirroshande

Relevant Course Work: Machine Learning, Deep Learning, Image Processing, Artificial Intelligence Planning, Stochastic Process

Guilan University

Rasht, Iran

M.Sc. in Computer Engineering - Software Engineering

2013-2016

Thesis Title: Providing a Question Answering System for Natural Language

Supervisor: Dr. Seyed Abolghasem Mirroshandel

GPA: 19.71/20

- Ranked first among all entire university computer engineering students.

Relevant Course Work: Advanced Software Engineering, Advanced Computer Architecture, Modeling and Evaluation of Computer Systems, Natural Language Processing, Advanced Computer Networks, Distributed Systems, Advanced Operating Systems.

Shahid Rajaei Teacher Training University

Tehran, Iran

B.Sc. in Computer Engineering - Software Engineering

2009-2013

Thesis Title: Design and Implementation of the School Portal

Supervisor: Dr. Negin Daneshpour

GPA: 17.90/20

- Ranked fourth among all entire university computer engineering students.

Relevant Course Work: Advanced Programming, Data Structure, Algorithm design, Compilers Theory and Design, Computer Architecture, Internet Engineering, Programming Languages, Software Engineering, Artificial Intelligence, Operating Systems, Database.

Hejab high school

Sowmesara, Guilan, Iran

Diploma in Mathematics and Physics

2005-2009

GPA: 19.78/20.0

- Ranked Second among all high school students in all years.

RESEARCH INTERESTS

- Natural Language Processing
- Machine learning and Deep learning
- Information Retrieval
- Image Processing

PUBLICATIONS

1. Boreshban, Y, Mirbostani, S. M, Ghassem-Sani, G, Mirroshandel, S. A, Amiriparian, S, Improving Question Answering Performance Using Knowledge Distillation and Active Learning, *Engineering Applications of Artificial Intelligence*, 2023.
2. Mirbostani, S. M, Boreshban, Y, Khalifa, S, Mirroshandel, S. A, Rambow, O, Deep active learning for morphophonological processing ,*In Proceedings of the 61th Annual Meeting of the Association for Computational Linguistics (Volume 2: Short Papers)*, Toronto, Canada. Association for Computational Linguistics, 2023.
3. Boreshban, Y, Yousefinasab, H, Mirroshandel, S. A, Providing a religious corpus of Question Answering System in Persian, *Journal of Signal and Data Processing*, 2018.
4. Boreshban, Y, Mirroshandel, S. A, A novel question answering system for religious domain in Persian, *Journal of Electrical Industries*, 2017.

ONGOING PROJECTS

1. Neshaei, S. A, Boreshban, Y, Ghassem-Sani, G, Mirroshandel, S. A, The Impact of Quantization on the Robustness of Transformer-based Text Classifiers, Under revision.
2. Mirbostani, S. M, Boreshban, Y, Mirroshandel, S. A, Rambow, O, Morphophonological Processing Using a Novel Meta Active Learning Algorithm, Under revision.
3. Nabipour, A, Shams, M, Boreshban, Y, Mirroshandel, S. A, Knowledge Distillation for Sperm Anomaly Detection in Limited Data Settings, Under revision.
4. Boreshban, Y, Mirbostani, S. M, Ghassem-Sani, G, Mirroshandel, S. A, Ahmadi, S. F, Shojaee, G, Kamani, A, Monsef, T, QAttack: A Framework for Adversarial Attack on Question Answering systems.
5. Boreshban, Y, Ahmadi, S. F, Shojaee, G, Ghassem-Sani, G, Mirroshandel, S. A, A novel adversarial attack using evolutionary algorithms on the Question Answering System.

TEACHING EXPERIENCES

- Lecturer, Natural Language processing course, Engineering Department, Guilan University, *Spring 2023*
- Lecturer, Artificial Intelligence course, Engineering Department, Guilan University, *Fall 2022*
- Lecturer, Compiler Design course, CE Faculty, Sharif University of Technology, *Fall 2021*
- Lecturer, Artificial Intelligence course, Engineering Department, Guilan University, *Fall 2021*
- Lecturer, Natural Language processing course, Engineering Department, Guilan University, *Spring 2021*
- Lecturer, Artificial Intelligence course, Engineering Department, Guilan University, *Fall 2020*
- Lecturer, Artificial Intelligence, Engineering Department, Guilan University, *Spring 2017*
- Lecturer, Compiler Design course, Tehran university, Fouman Faculty of Engineering, *Spring 2017*
- Lecturer, Presentation of Scientific and Technical course, Tehran University, Fouman Faculty of Engineering, *Spring 2017*
- Lecturer, Artificial Intelligence, Engineering Department, Guilan University, *Fall 2016*
- Lecturer, Artificial Intelligence, Tehran University, Fouman Faculty of Engineering, *Fall 2016*
- Teaching Assistant, Artificial Intelligence Course, Dr. Gholamreza Ghassem-Sani, CE Faculty, Sharif University of Technology, *Spring 2022*
- Teaching Assistant, Deep Learning course, Dr. Hamid Beigy, CE Faculty, Sharif University of Technology, *Spring 2021*
- Teaching Assistant, Compiler Design course, Dr. Gholamreza Ghassem-Sani, CE Faculty, Sharif University of Technology, *Spring 2021*
- Teaching Assistant, Deep Learning course, Dr. Hamid Beigy, CE Faculty, Sharif University of Technology, *Fall 2020*
- Teaching Assistant, Image Processing course, Prof. Shohreh Kasaei, CE Faculty, Sharif University of Technology, *Spring 2020*
- Teaching Assistant, Advanced Programming Course, Dr. Seyed Abolghasem Mirroshandel, Engineering Department, Guilan University, *Spring 2015*
- Teaching Assistant, Advanced Programming Course, Dr. Seyed Abolghasem Mirroshandel, Engineering Department, Guilan University, *Spring 2014*
- Teaching Assistant, Compiler Design Course, Dr. Seyed Abolghasem Mirroshandel, Engineering Department, Guilan University, *Spring 2015*
- Teaching Assistant, Compiler Design Course, Dr. Seyed Abolghasem Mirroshandel, Engineering Department, Guilan University, *Spring 2014*
- Teaching Assistant, Artificial Intelligence Course, Dr. Seyed Abolghasem Mirroshandel, Engineering Department, Guilan University, *Fall 2014*

- Teaching Assistant, Data Structure Course, Dr. Seyed Abolghasem Mirroshandel, Engineering Department, Guilan University, *Fall 2014*
- Teaching Assistant, Database Course, Dr. Zahra Mirrzamomen, Computer Engineering Department, Shahid Rajaee Teacher Training University, *Spring 2013*

HONORS AND AWARDS

- Awarded full scholarship from Sharif University of Technology (SUT) in computer engineering.
- Ph.D. Admission from Sharif University of Technology (SUT), Tehran, Iran, 2018
- Ph.D. Admission from Iran University of Science and Technology (IUST), Tehran, Iran, 2018
- First Rank Award, for achieving the best GPA among all university Computer Engineering students, 2016
- Awarded full scholarship from Guilan University in computer engineering.
- fourth Rank Award, for achieving the best GPA among all university Computer Engineering students, 2013
- Awarded full scholarship from Shahid Rajaee Teacher Training University (SRTTU) in computer engineering.
- Ranked top 3% among nearly 300,000 participants in the National University Entrance Exam of 2009.

SELECTED COURSE PROJECTS

Course: Deep Learning

Deep learning packages: Pytorch, Keras

- Transfer learning for CNN classification (datasets: CIFAR-100, CIFAR-10)
- Times series prediction using GRU, LSTM (dataset: Apple Inc.'s stock price)
- Generative adversarial network (dataset: MNIST)
- Sequence generation using LSTM (dataset: Shakespeare)
- Denoising Autoencoder and Conditional Variational Autoencoder (dataset: MNIST)

Course: Machine Learning

Machine Learning libraries: Numpy, Pandas, Matplotlib

- Classification using SVM, logistic regression, Adaboost, and random forest in different datasets
- Clustering using K-means algorithm

Course: Image Processing

Deep learning packages: OpenCV

- Histogram equalization
- Deconvolution and inverse filtering
- Morphological Image Processing Functions
- Hough Transform
- Image Smoothing using denoising algorithms

►Image style transfer

Course: Natural Language Processing

►Language Models in Spell Correction (dataset: HolbrookCorpus)

WORK EXPERIENCE

- Research Assistant, Remote, 2021
[Telecommunication Research Center, Tehran, Iran](#)
Project: Artificial Intelligence applications in Agriculture, Smart City, and Education
- Research & Develop, Remote, 2014
[EideBekreMobin Company, Tehran, Iran](#)
- Web Programming, Internship, 2013
[Tebyan Company, Tehran, Iran](#)

PROGRAMMING AND APPLICATION SKILLS

Programming Languages
Machine Learning Libraries
Deep Learning Framework
Document Preparation

Python, Java, C#, MATLAB, ASP.Net, C++, HTML, CSS, SQ
Numpy, Pandas, Matplotlib
Pytorch, Keras
LaTex, Microsoft office

LANGUAGES

English: Fluent
Persian: Native

HOBBIES AND INTERESTS

- Listening to music
- Walking
- Watching Movie
- Reading Book
- Cooking

REFERENCES

Dr. Gholamreza Ghassem-Sani
Associate Professor at Sharif University of Technology

HomePage: <http://sharif.edu/~sani>
Email: sani@sharif.edu

Dr. Seyed Abolghasem Mirroshandel
Associate Professor at University of Guilan

HomePage: <https://nlp.guilan.ac.ir/mirroshandel>
Email: mirroshandel@guilan.ac.ir