

# Yasaman Boreshban

Sharif University of Technology, Tehran, Iran

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## EDUCATION

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### 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: 19.71/20

- 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

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

## PUBLICATIONS

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1. **Boreshban, Y**, Mirbostani, S. M, Ghassem-Sani, G, Mirroshandel, S. A, Amiriparian, S, **Improving Question Answering Performance Using Knowledge Distillation and Active Learning**, *Under review, pre-print version on Arxiv*, 2021.
2. **Boreshban, Y**, Yousefinasab, H, Mirroshandel, S. A, **Providing a religious corpus of Question Answering System in Persian**, *Journal of Signal and Data Processing*, 2018.
3. **Boreshban, Y**, Mirroshandel, S. A, **A novel question answering system for religious domain in Persian**, *Journal of Electrical Industries* 8(2), 2017.
4. **Boreshban, Y**, Mirbostani, S. M, Ghassem-Sani, G, Mirroshandel, S. A, Ahmadi, S. F, Shojaei, G, Kamani, A, Monsef, T, **QAttack: A Framework for Adversarial Attack on Question Answering systems** (In progress).
5. Nabipour, A, Shams, M, **Boreshban, Y**, Mirroshandel, S. A, **Improving Sperm abnormality detection using Anomaly detection approaches** (In progress).
6. **Boreshban, Y**, Ahmadi, S. F, Shojaei, G, Ghassem-Sani, G, Mirroshandel, S. A, **A novel adversarial attack using evolutionary algorithms on the Question Answering System** (In progress).
7. **Boreshban, Y**, Keshavarzi, S. M. S, Ghassem-Sani, G, Mirroshandel, S. A, **Improving Biomedical Question Answering systems using Meta-Learning Approaches** (In progress).

## TEACHING EXPERIENCES

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- **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, *Fall 2016*
- **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, 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 Mirzamomen, Computer Engineering Department, Shahid Rajaei Teacher Training University, *Spring 2013*

## HONORS AND AWARDS

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- 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 Rajaei 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

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### 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

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- **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

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Programming Languages	Python, Java, C#, MATLAB, ASP.Net, C++, HTML, CSS, SQL
Machine Learning Libraries	Numpy, Pandas, Matplotlib
Deep Learning Framework	Pytorch, Keras
Document Preparation	LaTex, Microsoft office

## LANGUAGES

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English:	Fluent
Persian:	Native

## HOBBIES AND INTERESTS

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

## REFERENCES

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**Dr. Gholamreza Ghassem-Sani**

Associate Professor at Sharif University of Technology

*HomePage: <http://sharif.edu/~sani>*

*Email: [sani@sharif.edu](mailto: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](mailto:mirroshandel@guilan.ac.ir)*