

Behzad Shayegh Boroujeni

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Education

Bachelor of Science 2017-2022
University of Tehran

Major in Computer Engineering
Focused in Software Engineering
GPA: 18.41/20 (3.93/4)
GPA over the last two years: 18.61/20
School of ECE

Minor in Computer Science
GPA: 19.73/20 (4/4)
School of MSCS

Relevant Courses

* indicates graduate courses.

	Grade/20
Computational Neuroscience *	19.75
Assoc. Prof. Mohammad Ganjtabesh	
Natural Language Processing *	19.1
Assoc. Prof. Heshaam Faili	
Reinforcement Learning *	20
Prof. Majid Nili	
Statistical Machine Learning *	19.5
Assoc. Prof. Zahra Rezaei Ghahroodi	
Artificial Intelligence	20
Assis. Prof. MohamadAmin Sadeghi	
Statistical Methods	20
Ph.D. Candidate. Hasan Misaii	
Engineering Probability and Statistics	19.7
Assis. Prof. Behnam Bahrak	

Research Interests

Natural Language Processing
Text Processing

Computational Neuroscience
Spiking Neural Networks

Hobbies and Interests

Hobbies	Interests
Violin	Music Composition
Chess	Creative Writing

Research Experience

2021-NOW **Spiking Neural Networks Framework** Spiral

Python Comp-Neuro SNN PyTorch

Spiral is a python package for spiking neural network (SNN) simulation using PyTorch on CUDA or CPU. It tries to bring its design as close as possible to biological observations of how the nervous system functions. I am designing and developing this framework under the auspices of the Computational Neuroscience Research Lab (CNRL) at the University of Tehran.

By-products:

- Add-On Class
- Construction Requirements Integrator
- Matplotlib Dashboard
- Constant Properties Protector

Assoc. Prof. Mohammad Ganjtabesh

2020-2021 **Persian Address to Postal-Code Converter** PAT

Python NLP NLTK Persian Data-Collection

Persian Address Tracer (PAT) is one of the most successful and intelligent systems used for converting the Persian text of an address to a postal code.

Assis. Prof. MohamadAmin Sadeghi

2019-2020 **House Prices Estimation over Tehran** 4-Choob

Python Numpy Shapely PostgreSQL Q-GIS PostGIS

4-Choob was a project aiming at automating house price estimation over Tehran. I was tasked with extracting features, and the result was the extraction of more than 400 efficient price-forecasting features.

Assis. Prof. MohamadAmin Sadeghi

Books

2020-NOW **Discrete Mathematics** OpenBookshelf

LaTeX Discrete Mathematics Persian Open-Source

I lead a group of volunteers who are writing an open-source Persian book on discrete mathematics.

By-products:

- LaTeX Persian textbook template
- Common Mistakes in Discrete Mathematics

Assoc. Prof. Siamak Mohammadi

Teaching Assistance Experience

* indicates head teaching assistant.

FALL	2021*	Engineering Probability and Statistics
FALL	2019	<ul style="list-style-type: none"> Applied Statistics Tutorial in R <i>Assis. Prof. Behnam Bahrak</i>
SPRING	2021*	Discrete Mathematics
FALL	2020*	<ul style="list-style-type: none"> Restructuring the syllabus and the coursework Creating educational contents Experimenting with additional exercising and evaluation methods
SPRING	2020*	
FALL	2019	<i>Assoc. Prof. Siamak Mohammadi</i>
SPRING	2019	
		Natural Language Processing
		(Graduate course)
SPRING	2021	<ul style="list-style-type: none"> FFNN, RNN, and LSTM Language Models <i>Assoc. Prof. Heshaam Faili</i>
		<i>Assis. Prof. Yadollah Yaghoobzadeh</i>
		Artificial Intelligence
SPRING	2020	<ul style="list-style-type: none"> Genetic Algorithm and ML Models <i>Dr. Hakimeh Fadaei</i>
FALL	2019	Data Structures and Algorithms
		<i>Assoc. Prof. Heshaam Faili</i>
FALL	2018	Engineering Programming
SPRING	2018	<ul style="list-style-type: none"> A Series of Basic C++ Exercises <i>Dr. Noushin Karimian</i>

Languages

Persian	Native
English	Fluent
IELTS Exam	Soon to be taken
GRE Exam	Soon to be taken

Skills

	Programming Languages	Python Libraries & Frameworks	Software & DBMSs	Other Tools & Frameworks
Expert	Python	Pandas NumPy Spiral	Git PostgreSQL LaTeX	Spreadsheet
Proficient	R SQL Bash	PyTorch Matplotlib NLTK Scikit-Learn	MySQL PostGIS	HTML CSS Jupyter Colab
Familiar	C++ C Java Verilog JavaScript	Keras BindsNET Shapely SciPy.stats	Q-GIS	ReactJS VueJS
Beginner	MATLAB C#	Sympy	MongoDB Elasticsearch	Spring

Workshop Mentoring Experience

SPRING 2020	Introduction to Data Science
	<ul style="list-style-type: none"> A Series of Python Exercises Amirkabir University of Technology
WINTER 2020	Data Science Winter School
	Khatam University
WINTER 2020	Data Science Winter School
	IEEE, University of Tehran
SUMMER 2019	Summer of Code, AI Branch
	ACM, University of Tehran

Honors

2017-Now	Among 15 percent of high-ranked Computer Engineering B.Sc. students at the University of Tehran, including more than 100 students.
2017	Admission and a scholarship to the University of Tehran
	Top Ranked in Nationwide University Entrance Exam
	Mathematics and Physics Discipline
	Ranked 544 th among 52808 regional participants
	Ranked 2021 th among 137788 national participants
2017	Art Discipline
	Ranked 731 th among 16875 regional participants
	Ranked 2115 th among 48673 national participants
2015	The best regional student violinist according to the vote of the Ministry of Education.

Notable Course Projects

Computational Neuroscience

Assoc. Prof. Mohammad Ganjtabesh [↗](#)

SPRING 2021

Text Representation using Recurrent SNN (Temporary suspension) [↗](#)

Comp-Neuro NLP SNN STDP English Python Spiral

Face Representation using Convolutional SNN [↗](#)

Comp-Neuro Vision CSNN STDP Python PyTorch

Understand the parameters in SNNs (10 Parts) [↗](#)

Comp-Neuro SNN Python PyTorch

Reinforcement Learning

Prof. Majid Nili [↗](#)

FALL 2020

Apply RL algorithms on simulated problems (5 Parts) [↗](#)

RL Python

Natural Language Processing

Assoc. Prof. Heshaam Faili [↗](#)

SPRING 2020

IMDB Sentiment Analysis and Emails Spam Detection using Bert and Elmo [↗](#)

NLP Text Classification Bert Elmo English Python Keras

POS Tagging using RNN and HMM [↗](#)

NLP POS-Tagging English Python Keras NLTK

English to Persian Neural Machine Translation and Persian to English Neural Machine Transliteration [↗](#)

NLP NMT En2Fa Fa2En Python Open NMT

Feed Forward Neural Network Language Model [↗](#)

NLP Language Model NN English Python PyTorch

Movie Reviews Sentiment Analysis using Naive Bayes [↗](#)

NLP Text Classification Naive Bayes English Python

Persian News Classification using N-gram Language Models [↗](#)

NLP Text Classification Language Model Persian Python

Artificial Intelligence

Assis. Prof. MohamadAmin Sadeghi [↗](#)

SPRING 2019

Emails Spam Detection using Naive Bayes [↗](#)

NLP Text Classification Naive Bayes English Python

Image Classification (CIFAR-10) using CNNs [↗](#)

Vision Image Classification CNN NN Python PyTorch

References

Sorted alphabetically.

Assis. Prof. Behnam Bahrak [↗](#)

Mail [✉](#)

Assis. Prof. MohamadAmin Sadeghi [↗](#)

Mail [✉](#)

Assoc. Prof. Siamak Mohammadi [↗](#)

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Assis. Prof. Yadollah Yaghoobzadeh [↗](#)

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