

# Behzad Shayegh Boroujeni

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BehzadShayegh

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## Education

**Bachelor of Science** 2017-2022  
University of Tehran

**Major in Computer Engineering**

- Focused in Software Engineering
- Thesis: Persian Address to Postal-Code Converter (Grade: 19.88/20)
- GPA: 18.41/20 (3.93/4)
- GPA over the last year: 18.71/20

School of ECE

**Minor in Computer Science**

- GPA: 19.73/20 (4/4)

School of MSCS

## Relevant Courses

\* indicates graduate courses.

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

Violin

Chess

Interests

Music Composition

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	<b>Foundation Models in Natural Language Processing</b> (Graduate Course) Assis. Prof. Yadollah Yaghoobzadeh <a href="#">↗</a>
FALL	2021*	<b>Engineering Probability and Statistics</b> Assis. Prof. Behnam Bahrak <a href="#">↗</a>
FALL	2019	• Applied Statistics Tutorial in R
SPRING	2021	<b>Natural Language Processing</b> (Graduate Course) Assoc. Prof. Heshaam Faili <a href="#">↗</a> Assis. Prof. Yadollah Yaghoobzadeh <a href="#">↗</a>
SPRING	2021*	<b>Discrete Mathematics</b> Assoc. Prof. Siamak Mohammadi <a href="#">↗</a>
FALL	2020*	• Restructuring the syllabus and the coursework
SPRING	2020*	• Creating educational contents
FALL	2019	• Experimenting with additional exercising and evaluation methods
SPRING	2019	
SPRING	2020	<b>Artificial Intelligence</b> Dr. Hakimeh Fadaei <a href="#">↗</a> • Genetic Algorithm and ML Models
FALL	2019	<b>Data Structures and Algorithms</b> Assoc. Prof. Heshaam Faili <a href="#">↗</a>
FALL	2018	<b>Engineering Programming</b> Dr. Noushin Karimian <a href="#">↗</a>
SPRING	2018	• A Series of Basic C++ Exercises

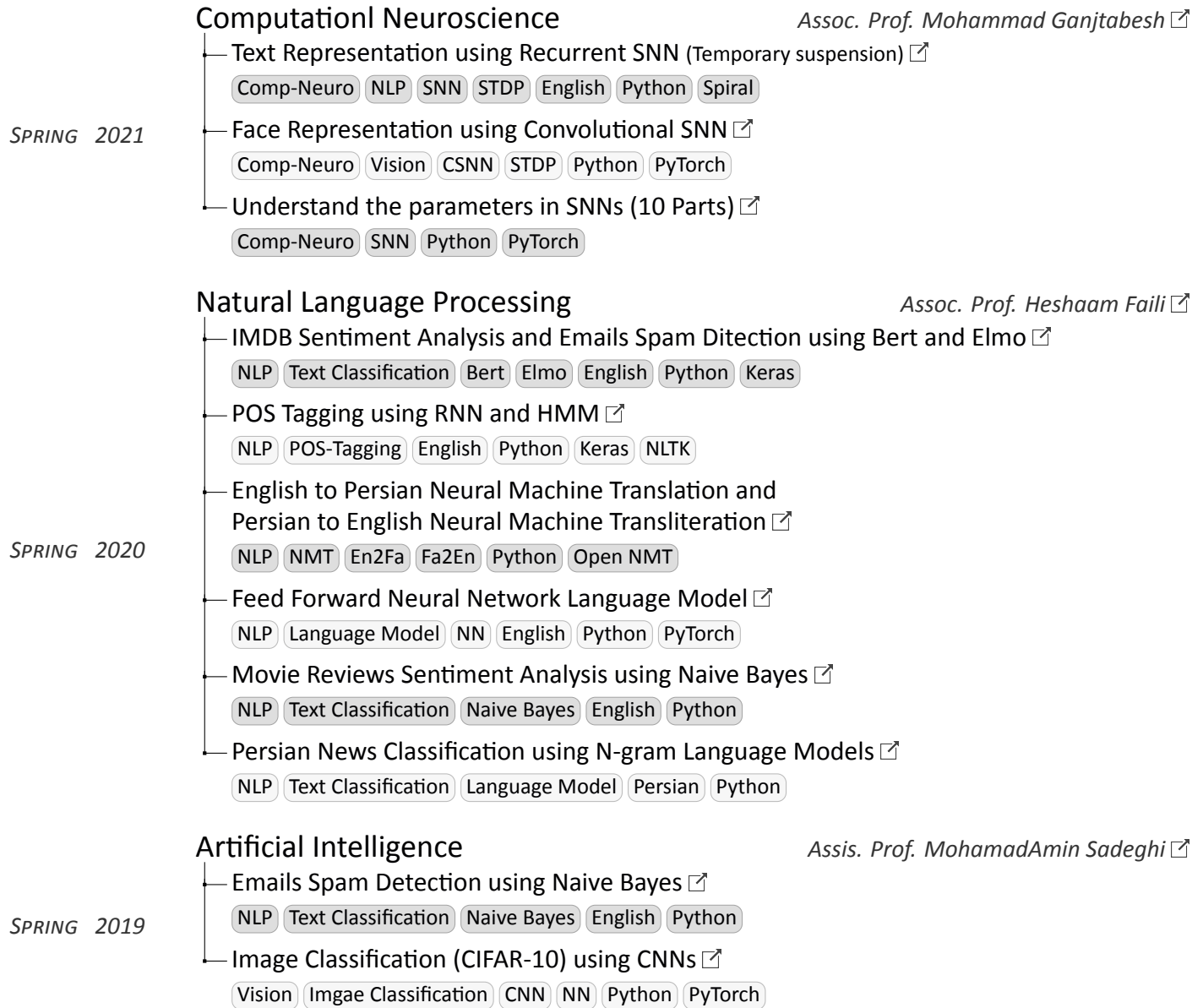
## Workshop Mentoring Experience

SPRING	2020	<b>Introduction to Data Science</b> • A Series of Python Exercises <a href="#">↗</a> Amirkabir University of Technology
WINTER	2020	<b>Data Science Winter School</b> Khatam University
WINTER	2020	<b>Data Science Winter School</b> IEEE, University of Tehran
SUMMER	2019	<b>Summer of Code, AI Branch</b> ACM, University of Tehran

## 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

## Notable Course Projects



## 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
- 2017** **Top Ranked** in Nationwide University Entrance Exam
- Mathematics and Physics Discipline
    - Ranked 544<sup>th</sup> among 52808 regional participants
    - Ranked 2021<sup>th</sup> among 137788 national participants
  - Art Discipline
    - Ranked 731<sup>th</sup> among 16875 regional participants
    - Ranked 2115<sup>th</sup> among 48673 national participants
- 2015** **The best** regional student violinist according to the vote of the Ministry of Education.

## Languages

Persian ..... Native

English ..... Fluent

- IELTS Exam ..... Soon to be taken
- GRE Exam ..... Soon to be taken

## References

Sorted alphabetically.

Assis. Prof. Behnam Bahrak	✉
Assoc. Prof. Siamak Mohammadi	✉
Assis. Prof. MohamadAmin Sadeghi	✉
Assis. Prof. Yadollah Yaghoobzadeh	✉