






# Behzad Shayegh Boroujeni


University of Tehran, Tehran, Iran

+98 938 137 73 91   
behzad.shayegh.b@gmail.com   
BehzadShayegh   
behzad-shayegh   
BehzadShayegh.github.io 

## 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

## Languages

Persian ..... Native


English ..... Fluent

└ IELTS Exam ..... Overall: 7.5  
L: 7.5 | R: 8.5 | W: 6.5 | S: 6.5





## 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 

TeX Discrete Mathematics Persian Open-Source

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

By-products:

- TeX 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)<br>Assis. Prof. Yadollah Yaghoobzadeh <a href="#">↗</a>                            |
| FALL   | 2021* | <b>Engineering Probability and Statistics</b><br>Assis. Prof. Behnam Bahrak <a href="#">↗</a>  |
| FALL   | 2019  | • Applied Statistics Tutorial in R   |
| SPRING | 2021  | <b>Natural Language Processing</b> (Graduate Course)<br>Assoc. Prof. Heshaam Faili <a href="#">↗</a><br>Assis. Prof. Yadollah Yaghoobzadeh <a href="#">↗</a> |
| SPRING | 2021* | <b>Discrete Mathematics</b><br>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><br>Dr. Hakimeh Fadaei <a href="#">↗</a><br>• Genetic Algorithm and ML Models  |
| FALL   | 2019  | <b>Data Structures and Algorithms</b><br>Assoc. Prof. Heshaam Faili <a href="#">↗</a>  |
| FALL   | 2018  | <b>Engineering Programming</b><br>Dr. Noushin Karimian <a href="#">↗</a>   |
| SPRING | 2018  | • A Series of Basic C++ Exercises  |

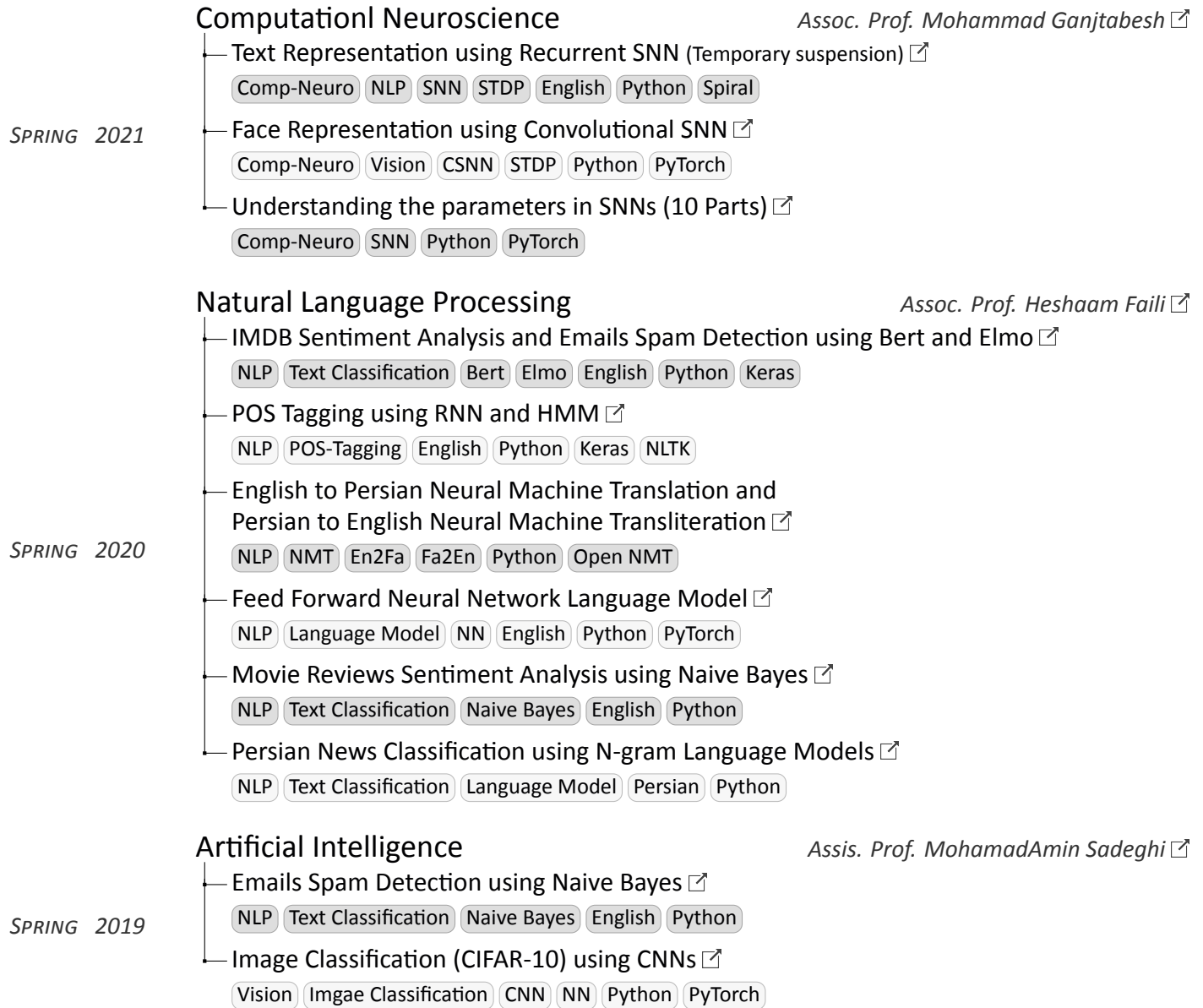
## Workshop Mentoring Experience

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

## Hobbies and Interests

### Hobbies

- Violin
- Chess

### Interests

- Music Composition
- Creative Writing

## References

Sorted alphabetically.

- |                                    |                   |                        |
|------------------------------------|-------------------|------------------------|
| Assis. Prof. Behnam Bahrak         | <a href="#">✉</a> | Mail <a href="#">✉</a> |
| Assoc. Prof. Siamak Mohammadi      | <a href="#">✉</a> | Mail <a href="#">✉</a> |
| Assis. Prof. MohamadAmin Sadeghi   | <a href="#">✉</a> | Mail <a href="#">✉</a> |
| Assis. Prof. Yadollah Yaghoobzadeh | <a href="#">✉</a> | Mail <a href="#">✉</a> |