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Borna Barahimi

Education

2018–2022 (Expected) **B.Sc. Computer Science**, *University of Tehran (QS 521-530)*, Tehran, Iran, *GPA: 3.27/4.*

Research Interests

- AI, Machine Learning, and Data Science
- Bioinformatics and Computational Biology
- Health informatics and Diagnostic informatics

Academic Achievements

2018 Rank 389 among 145,000 participants in *the Iranian university entrance exam* for bachelor's degree

Awards and Honors

- Second Place in *Tehran Mental Health Electronics Startup Weekend 2019*, University of Tehran
- First place in Soccer Simulation League in *RoboCup Asia-Pacific 2018*, Kish, Iran
- Second Place in Soccer Simulation League in *NasirCup2017*, K. N. Toosi University of Technology
- Participant in Soccer Simulation League in *RoboCup2017*, Nagoya, Japan
- Winner of The Technical Challenge in Soccer Simulation League in *IranOpen2017*, Tehran, Iran
- First place in Soccer Simulation League in *ShirazOpen2016*, Shiraz University of Technology
- *Best New Team* in Soccer Simulation League in *RoboCup2016*, Leipzig, Germany

Professional Experiences

July 2019 – July 2021 **Backend Developer**, *VClinic*, Tehran, Iran.

VClinic is an in-treatment and post-treatment patient communication and follow-up platform. Providing EHR, Telehealth, and AI-enabled services for patients and physicians. I was responsible for designing and implementing our platforms, including several modules such as Electronic Health Record (EHR), Electronic Prescription, and drug interaction detection. more information about the product can be found here.

Oct 2016 – July 2019 **Robotics Programmer**, *Atomic Energy High School*, Tehran, Iran.
Cyrus Soccer Simulation 2D Team is a RoboCup Team that I joined when I was in high school. This experience provided me with an opportunity to use programming and algorithms to solve real-world problems. We Designed and implemented algorithms within the provided competition framework for the Soccer Simulation 2D field in the RoboCup competition. Algorithms were mainly inspired by the actions and techniques of real soccer players. More information about the Soccer Simulation 2D field can be found here.

Teaching Experiences

Aug 2020 – Present **Teacher Assistant**, *Karyar College*, Tehran, Iran.
KARYAR is a social startup to train skilled software developers in underprivileged communities of Iran and connect them to well-paying jobs in the technology sector.

Volunteer Experiences

Aug 2020 – Present **Teacher Assistant Representative**, *Karyar College*, Tehran, Iran.

May 2019 – Oct 2020 **Community Representative**, *University of Tehran*, Tehran, Iran, Computer Science Academic Association.

Notable Projects

Compiler Project *Development of COOL programming language compiler*
This was the project for the compiler course of university, and it consisted of lexer, parser, semantics, and code generation. It required the implementation of the first three parts. Our responsibility was to understand different concepts of compiler implementation and complete the basic project that was available for us based on specifications of the COOL language. (see `https://theory.stanford.edu/~aiken/software/cool/cool.html`)

Suffix Tree *Implementation of a tool for working with suffix trees*
It was our final project for *the Design and Analysis of Algorithms course*, and we were asked to develop a graphical tool with three features, and our data structure had to be a suffix tree. First, it had to find a specific pattern in multiple strings; I used a generalized suffix tree for solving this problem. The second problem was to find the longest substring in a given string with a specified minimum number of occurrences. The last part was to find the longest common substring among several given strings. Additionally, I made my tool a web-based application with the Flask framework for the graphical part of the question. (see `https://github.com/bornabr/SuffixTree`)

Skills

Programming Languages Python, C++, R, LaTeX, Ruby, JavaScript, Bash

Databases SQL, MongoDB, Redis

Web Development Node.js, HTML5, CSS, Express.js, Docker, React.js, Ruby on Rails, JQuery, Webpack

Data Mining numpy, pandas, scikit-learn, keras, TensorFlow

Industry Knowledge Agile Development, Object-Oriented Programming (OOP), Web Development, Model-View-Controller (MVC), REST API Development, Design Thinking

Selected Courses

- Data Mining: A+
- Compiler: A+
- Statistical Methods: A
- Data Structures and Algorithms: A
- Database Management Systems: A+
- General Biology: A
- Design and Analysis of Algorithms: A
- Advanced Programming: A

References

Mr. Nader Zare, *Teacher/Team Leader*, Team Leader of Cyrus RoboCup Team.
Email: nader.zare88@gmail.com

Mr. Sadegh Houshmand, *Employer*, CEO of Vclinic.
Email: sadegh.houshmand@gmail.com