

# Ghazaleh Bakhtiariadz

## PERSONAL INFORMATION

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*Birth* March 2, 1998  
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*GitHub* <https://github.com/ghazalb76>

## EDUCATION

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**B.Sc. in Computer Engineering with concentration on SE** Sep 2016 - Sep 2020  
*Iran University of Science and Technology (IUST), Tehran, Iran*  
Ranked 4<sup>th</sup> best University in Iran based on [QS Ranking](#)  
**GPA (Last two years via 68 credits): 3.85/4 (18.20/20)**  
**GPA (All 142 credits): 3.73/4 (17.51/20)**  
**Bachelor's Thesis:** Security and Performance-aware Virtual Machine Placement in Cloud Computing Centers (Supervisor: Dr. Mehrdad Ashtiani)

**Diploma in Mathematics and Physics Discipline** Sep 2009 - Jul 2016  
*Farzanegan MidSchool, HighSchool, PreUniversity, Tehran, Iran*  
National Organization for Development of Exceptional Talents (NODET)  
**GPA: 4/4**

## AWARDS & HONORS

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- **Ranked 6<sup>th</sup>** GPA among 80 graduate students at the Department of Computer Engineering
- Gained an opportunity for going to **M.Sc.** at the Department of Computer Engineering without taking the "Iranian University Entrance Exam" for Master's degree as an award for exceptional talented students 2020
- Selected as a member of Scientific Association of Computer Engineering Department 2018 - 2019
- Selected as a main member of **ACM team** of Computer Engineering Department 2017
- Ranked within the **top 0.2%** of the candidates in the "Iranian University Entrance Exam" for bachelor's degree 2016
- Member of **National Organization for Development of Exceptional Talents (NODET)** for ten years (acceptance rate < 0.3) 2009 - 2016
- Granted **tuition scholarship** for the top 4<sup>th</sup> Iranian Engineering Universities 2016
- Accepted to be one of the main members of **Physics Olympiad** in HighSchool 2014

## RESEARCH INTERESTS

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Software Engineering  
Data Mining  
Distributed Systems

Cloud Computing  
System Analysis  
High Performance Computing

## ACADEMIC EXPERIENCE

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### Cloud Computing Center Administrator, IUST, Tehran, Iran

Jun 2019 - Present

- Worked as a **Cloud Administrator** in **Cloud Computing Center** of Iran University of Science and Technology:
  - Installed and configured **OpenStack** and some of its important tools and services such as: Nova, Neutron, Ceilometer, Gnocchi, Cinder, KeyStone, Glance, etc.
  - Prepared and configured some Operating Systems like Windows as a Cloud-Ready image
  - Served IaaS to other laboratories

### ChillinWars Developer, IUST, Tehran, Iran

Sep 2018 – Feb 2019

- **ChillinWars**: Iran University of Science and Technology's AI contest. It is held, every year in Iran, as a well-known programming contest in the form of artificial intelligence implementation
- Worked as a full-stack developer of **Junior Game** in 2018 -2019 competition with its exclusive framework

## TEACHING EXPERIENCE

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### Teacher Assistant, Iran University of Science and Technology, Tehran, Iran

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|---|---------------------|
| • Software Engineering (Instructor: Dr. Mehrdad Ashtiani) | Feb 2021 – Jun 2021 |
| • Embedded Systems (Instructor: Dr. AmirMahdi Hosseini)   | Feb 2021 – Jun 2021 |
| • Data Transmission (Instructor: Dr. Ahmad Akbari)        | Feb 2021 – Jun 2021 |
| • Software Engineering (Instructor: Dr. Behrooz Minaei)   | Feb 2020 – Jun 2020 |
| • Software Engineering (Instructor: Dr. Mehrdad Ashtiani) | Sep 2019 – Jan 2020 |
| • Database (Dr. Eisa Zarepour)                            | Sep 2019 – Jan 2020 |
| • Data Structure (Dr. Hossein Rahmani)                    | Sep 2018 – Jan 2019 |
| • System Analysis (Instructor: Dr. Mehrdad Ashtiani)      | Feb 2019 – Jun 2019 |
| • Programming Basics (Dr. Zeinab Movahhedi)               | Sep 2017 – Jan 2018 |

## INDUSTRIAL EXPERIENCE

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### Back-end Developer, Iran Tourism Bank, Tehran, Iran

Apr 2020 - Present

- **Tourism Bank**: The first specialized and private bank in the field of tourism in Iran
- Developed Back-end services for a **Digital-Banking project**, using **Spring Boot**
- Developed an API-Gateway-Manager for **REST** and **gRPC**
- Migrated the previous admin dashboard to a new one, using **ReactJS** Framework

### Front-end developer, Teachent, Tehran, Iran

Feb 2018 - Jun 2018

- Teachent: An application of a friendly startup with a contribution of 5 developers

## SKILLS

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<i>Programming Languages</i>	<i>Proficient at:</i> Java, Python, C, C++, HTML/CSS, Bash (Linux) <i>Familiar with:</i> Go, Assembly, MATLAB, VHDL
<i>Frameworks, Libraries</i>	Pandas, Scikit-learn, Caffeine, ReactJS, Spring Boot, Django, Flask, SDL
<i>NLP Tools</i>	NLTK, MALLET, SRILM
<i>Project Management Tools</i>	TFS, Jira, Trello
<i>Hardware Tools</i>	Xilinx ISE, Arduino, AVR Studio, CodevisionAVR
<i>Others</i>	Linux, OpenStack, Git, PostgreSQL, NoSQL, Oracle, Redis, Docker, Kubernetes, UML, Visual Paradigm, Unity, LaTeX
<i>Language Skills</i>	Persian: <i>Mother tongue</i> English: <i>TOEFL iBT: To be taken in Oct 9, 2021</i> GRE: To be taken in Oct 25, 2021 Arabic: <i>Familiar</i>

## ACADEMIC PROJECTS

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### Internet Engineering Course

Supervisor: Dr. Vesal Hakami

- Peer-to-peer file transfer Service ([GitHub link](#))
  - Established Signaling channel and Data channel to transfer files between two peers using **WebRTC**
- HTTP Long Polling ([GitHub link](#))
  - Implemented **Long Polling** with **XHR** to view posts dynamically when someone posts them
- Socket Programming
  - Implemented a HTTP Web server using sockets ([GitHub link](#))
  - Implemented a Client-server communication via **Socket Programming** in which a client sends a matrix to another by server and after multiplying the matrix by itself, server returns the result to the first client ([GitHub link](#))

### Distributed systems (Self Study)

- Analyzed Exchange Information with **Stream Processing** using **Apache Storm** ([GitHub link](#))
- Implemented MPI (Message Passing Interface) ([GitHub link](#))
  - Multiply huge matrices using multiple nodes
  - Calculate the integral by the trapezoidal approximation method using **Distributed systems**

### Design of Computer Games

Supervisor: Dr. Behrooz Minaei

- Implemented "Chicken Invaders" using **Unity Game Engine**
  - Prepared **Game Development Design** (GDD), Prototype, and Implemented the game

### Object Oriented Design

Supervisor: Dr. Mehrdad Ashtiani

- Implemented a Framework to help others develop Websites like [Divar](#) and [eBay](#) ([GitHub link](#))

### Data Mining Course

Supervisor: Dr. Hossein Rahmani

- This course, in our university, is for Master's students, but professor Rahmani let me join because of my high grades
- Heart Diseases Recognition ([GitHub link](#))

- Implemented **Decision Tree** using **Python** and **Sickit-learn** to detect if someone is suffering from heart disease or no
- Fraud Detection
  - Implemented a **SVM** classification model to detect fraud ([GitHub link](#))

## Natural Language Processing

Supervisor: Dr. Sauleh Etemadi

- Pop vs. Traditional lyrics recognition ([GitHub link](#))
  - Implemented Data collection, Data Extraction, Pre Processing, and primary data analysis
  - Implemented Data Splitting, Language Model's train phase, **Perplexity** calculation and **Text Generation** using **Language model**
  - Implemented **Naive-Bayes** Classifier and **Maximum Entropy** (MaxEnt) Classifiers using Mallet and compared these two approaches
- Different Phonetics Detection ([GitHub link](#))

## Computational Intelligence Course

Supervisor: Dr. Naser Mozayani

- Solved "Inverted Pendulum" using **Fuzzy Logics** ([GitHub link](#))
- Implemented image classification using **Multi-Layer Perceptron** for Hoda Data Set (Like MNIST but in Persian) with Numpy, Keras ([GitHub link](#))
- Designed a noise-robust model using **Hopfield Network** for image detection ([GitHub link](#))
- Implemented Function approximation using **RBF** (Radial Basis Function) ([GitHub link](#))

## Signal Processing Course

Supervisor: Dr. Mohammadreza Mohammadi

- Implemented **Gender Recognition** using Signal Processing and signal-based feature ([GitHub link](#))
- Implemented Dual-Tone Multi-Frequency (DTMF) signaling ([GitHub link](#))
- Implemented Yes-No Detection simulation ([GitHub link](#))

## ONLINE COURSES

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Cyber Threats and Attack Vectors Course, University of Colorado System, Greg Williams

## SELECTED ACADEMIC COURSES

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B.Sc. Thesis	A <sup>+</sup>	Natural Language Processing	A <sup>+</sup>
Software Engineering	A <sup>+</sup>	Embedded Systems	A <sup>+</sup>
System Design and Analysis	A <sup>+</sup>	Data Transmission	A <sup>+</sup>
Internet Engineering	A <sup>+</sup>	Electrical Circuits	A <sup>+</sup>
Object Oriented Design	A <sup>+</sup>	Discrete Mathematics	A <sup>+</sup>
Game Development Design	A <sup>+</sup>	Advanced Programming	A
Database Design	A <sup>+</sup>	Basic Programming	A

## PUBLICATION

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"Reliability in distributed stream processing systems". Ghazale Bakhtiari Azad, Mohsen Sharifi. (Term Paper)

"Proactive auto-scaling for distributed stream processing systems". Ghazale Bakhtiari Azad, Mehrdad Ashtiani. (In Progress - ICPADS Confrence)

## REFERENCES

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Available upon request.