Ghazaleh Bakhtiariazad

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EDUCATION

B.Sc. in Computer Engineering with concentration on SE Sep 2016 - Sep 2020
Iran University of Science and Technology (IUST), Tehran, Iran
Ranked **4th** 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)

AWARDS & HONORS

- **Ranked 6th** 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^{th} Iranian Engineering Universities 2016
- Accepted to be one of the main members of **Physics Olympiad** in HighSchool 2014

RESEARCH INTERESTS

Distributed Systems
High Performance Computing
Stream Processing Systems
Cloud Computing
System Analysis
Software Engineering

PUBLICATION

G. Bakhtiariazad, M. Ashtiani, "Security and Performance aware Virtual Machine Placement in Cloud Computing Environments," in *Proceedings of the 12th IKT conference in Information Technology and Knowledge*, 2021. (Submitted)

G. Bakhtiariazad, M. Ashtiani, "Proactive auto-scaling for distributed stream processing systems," in *Proceedings of the IEEE International Conference on Parallel and Distributed Systems*, 2021. (In progress)

ACADEMIC EXPERIENCE

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 EXERIENCE

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

- Programming Basics (Instructor: Dr. Reza Entezari) Oct 2021 – Present
- 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

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

Programming Languages	*Proficient at:* Java, Python, C, C++, HTML/CSS, Bash (Linux) *Familiar with:* Go, Assembly, MATLAB, VHDL
Frameworks, Libraries	Pandas, Scikit-learn, Caffeine, ReactJS, Spring Boot, Django, Flask, SDL
NLP Tools	NLTK, MALLET, SRILM
Project Management Tools	TFS, Jira, Trello
Hardware Tools	Xilinx ISE, Arduino, AVR Studio, CodevisionAVR
Others	Linux, OpenStack, Git, PostgreSQL, NoSQL, Oracle, Redis, Docker, Kubernetese, UML, Visual Paradigm, Unity, LaTex
Language Skills	Persian: *Mother tongue* English: *TOEFL iBT: (R:26, L:29, S,W: available in Oct 15, 2021)* GRE: To be taken in Oct 25, 2021

ACADEMIC PROJECTS

Internet Engineering Course
Supervisor: Dr. Vesal Hakami

- Peer-to-peer file transfer Service
  - Established Signaling channel and Data channel to transfer files between two peers using **WebRTC**
- HTTP Long Polling
  - Implemented **Long Polling** with **XHR** to view posts dynamically when someone posts them
- Socket Programming
  - Implemented a HTTP Web server using sockets
  - 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

Distributed systems (Self Study)

- Analyzed Exchange Information with **Stream Processing** using **Apache Storm**
- Implemented MPI (Message Passing Interface)
  - 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

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
  - 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

Natural Language Processing **Supervisor: Dr. Sauleh Etemadi**

- Pop vs. Traditional lyrics recognition
  - 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

Computational Intelligence Course **Supervisor: Dr. Naser Mozayani**

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

Signal Processing Course **Supervisor: Dr. Mohammadreza Mohammadi**

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

ONLINE COURSES

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

SELECTED ACADEMIC COURSES

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

REFERENCES

Available upon request.