# Arghavan Zibaie

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## Education

**Sharif University of Technology**                                        *Tehran, Iran*

*Bachelor of Science in Electrical Engineering*                       *Sep 2016 - Feb 2021*

*Digital System Design Field*                                   *GPA: 3.73/4.00-17.67/20.00*

**Aboureihan Highschool**                                                  *Tehran, Iran*

*PRE-UNIVERSITY (CERTIFICATE AND HIGHSCHOOL DIPLOMA IN MATHEMATICS AND PHYSICS)*       *Fall 2011 - Fall 2016*

*GPA: 4.00/4.00*

## Achievements

- **Ranked 63th in National University Entrance Exam for Bachelor Degree among 200,000 competitors**

- **Ranked 39th among 162 students in Sharif University of Technology's Electrical Engineering Department**

- **Member Of Iran's National Elites Foundation**

## Research Interests

- **Control and System**
- **Game Theory and Applications**
- **Machine Learning**
- **Parallel and Distributed Computation**
- **Signal Processing / Image Processing**

## Experience

**Teaching Assistant, Logic Circuits**                        *September 2018 - January 2019*

*Lab Assistant and guiding students about circuit design and coding*

**Teaching Assistant, Computer Architecture**                    *January 2019 - July 2019*

*Lab Assistant and guiding students about coding and simulating with ISE and Modelsim*

**Teaching Assistant, Object Oriented Programming**              *January 2020 - July 2020*

*Programming Homework designing and assessing*

**Teaching Assistant, Object Oriented Programming**              *January 2021 - July 2021*

*Programming Homework designing and assessing*

**Teaching Assistant, Object Oriented Programming**              *January 2022 - July 2022*

*Programming Homework designing and assessing, Providing course materials and slides*

**Executive Manager, NeuroScience Symposium**                              *Winter 2019*

*Managing crews and preparing site of Symposium*

# Selected Course Projects

**simulation of first price auction with stable matching and efficient mechanisms**

*Game Theory Course Project*

- Simulation of hospitalization auction of covid-19 patients based on their probability of death ,the time they should spend in hospital , their insurance type and their station of disease . This auction had been simulated based on 2 different mechanism (stable matching and efficient mechanisms) and some different probability parameters too.

**Object Recognition in Images with Keras and Tensorflow**

*Machine Learning Course Project*

- Implementing CNNs through a calssification task on CIFAR-10 dataset using Keras Library.

**IMDB Data Analysis**

*Probability and Statistics Course Project*

- Exploring the database of imdb movies , working with statistical parameters and test, estimating imdb score.

**Finding nearest neighbor distance histogram (with GPU)**

*Parallel Programming and Architectures Course Project*

- Analysis distance of 10000 data with 128 dimension from 1000000 data with same number of dimension and finding histogram of these distances with GPU for each query.

**Minesweeper Game**

*C Programming Course Project*

- Minesweeper game with c language with all features of main game.

**Checkers Game**

*Java Programming Course Project*

- Checkers game with java language and with graphic features with java FX with all features of main game.

**Single Cycle and Multi Cycle Implementation**

*Computer Architecture Course Project*

- Single cycle and Multi cycle implementation of MIPS architecture, in Verilog.

**Voice Recorder and real-time pitch shifter**

*FPGA/ASIC Systems Design Course Project*

- Building a voice recorder that records and plays back 8-bit digital audio samples, in Verilog.

**P2P Channel Simulator**

*Data Networks Course Project*

- Designing and simulating peer to peer channel and define its routing protocols with socket programming , in Python.

**PCIe and DDR2 SDRAM Controller Simulation in ISE**

*Computer Interface Circuits Course Project*

- Simulating PCI Express and DDR2 sample codes in ISE and analyzing transactions base on their standards, in Verilog.

# Bachelor Project

**Database Optimization**

*Database and Machine Learning*

- Designing and optimizing a database model for traffic data. This database is used to query different patterns of traffic as fast as possible and to tune hyperparameters of a nueral netwrok to predict traffic intensity.

# Selected Courses

**Fundamentals of Programming: 19.7/20**
**Probability and Statistics: 18/20**
**Engineering Mathematics: 18.6/20**
**Java Programming: 20/20**
**Python Programming Lab: 18.8/20**
**Parallel Programming and Architectures: 18.9/20**
**FPGA/ASIC Systems Design: 18.5/20**
**Signals and Systems: 17.9/20**
**Computer Architecture and Microprocessor: 20/20**
**Data Structure and Algorithm Analysis: 18/20**
**Data Networks: 17.5/20**
**Machine Learning: 18.6/20**
**Game Theory: 18.4/20**
**Logic Circuit: 19/20**

# Computer Skills

**Programming Languages**

- C/C++, Python, JAVA, Assembly

**Circuit Design Languages and Programs**

- Verilog, Altium Designer, PSPICE, HSPICE, Proteos, Model-sim, Xilinx ISE

**Web Development**

- HTML, CSS, JS, FLASK, MYSQL, MongoDB

**Assembly and Micro-controller**

- MIPS, AVR, ARM, x86, Arduino

**Linux**

- Bash Scripting

**Documentation**

- LATEX, Microsoft Office

# Language Skills

**Persian:** ●●●●●
**English:** ●●●●○
**Arabic:** ●●○○○