# Samin Mahdipour

Student of Computer Engineering

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## EXPERIENCE

### **Amirkabir University of Technology,** Tehran, Iran — *Teaching Assistant*

SEPTEMBER 2022 - PRESENT

Advanced Programming is a course teaching Java programming language to students, It also focuses on the fundamentals of Object Oriented Programming (OOP).

Under the supervision of Dr. Rostayi

### **Amirkabir University of Technology,** Tehran, Iran — *Teaching Assistant*

SEPTEMBER 2022 - PRESENT

Under the supervision of Dr. Sabaei

### **Amirkabir University of Technology,** Tehran, Iran — *Teaching Assistant*

SEPTEMBER 2022 - PRESENT

Microprocessors and assembly language have been the most used methods of incorporating intelligence into automated devices. It is, therefore, necessary to develop a good understanding of their operation and how they can be used as building blocks for automated systems and control applications.

Under the supervision of Dr. Farbeh

### **Institute for Research in Fundamental Sciences (IPM),** Tehran, Iran — *Research Intern*

JULY 2022 - SEPTEMBER 2022

Studying basics of machine learning, supervised and unsupervised learning, Learning how to work on datasets, and working on some projects in supervised, unsupervised and deep learning.

## SKILLS

**Programming Languages:**

C/C++, Java, JavaFx, VHDL, Verilog , Python, Assembly, HTML, CSS, Javascript, SQL

**Python Libraries:**

NumPy, Matplotlib, Seaborn, Pandas, SkLearn

**Tools:**

VSCode, IntelliJ, Github, JupyterLab, Google Colab, Webstorm, Wireshark, Linux/Ubuntu, Linux/bash, CodeBlocks, Arduino, MadelSim, Pycharm

## LANGUAGES

Persian, English, French, Arabic

## CONTACTS

LinkedIn

Github

Kaggle

## AWARDS & HONORS

Passed in the first stage of the National Chemistry Olympiad 2014 / 2015 / 2016

## EDUCATION

### **Amirkabir University of Technology,** Tehran, Iran— *Bachelor of Science*

FEBRUARY 2020- PRESENT

BACHELOR OF COMPUTER ENGINEERING
Academic top student

Grade : 19.09

### **Amirkabir University of Technology,** Tehran, Iran — *Bachelor of Science*

SEPTEMBER 2019 - FEBRUARY 2020

BACHELOR OF MATERIAL SCIENCE AND METALLURGY ENGINEERING

Rank No.1 - 64 units passed

Grade: 19.4

### **Alzahra University,** Tehran, Iran — *Bachelor of Science*

SEPTEMBER 2018- FEBRUARY 2018

BACHELOR OF PURE CHEMISTRY

Rank No.1 - 16 units passed

Grade: 19.05

### **Farzanegan 2 High School,** Tehran, Iran — *Diploma*

Class of 2014

DIPLOMA OF MATHEMATICS

Grade: 18.7

## PROJECTS

### **Mr.Jack Plus**— *Spring 2021*

This project tried to implement Mr. Jack, which was a game based on Sherlock Holmes adventures in C.

Fundamentals of Computer Programming Final Project
Under the supervision of Dr. Alvani

### **Health Checking System**— *Spring 2021*

In this project, a health diagnosis system was designed using logic circuits course knowledge in Verilog.

Logic Circuits Final Project
Under the supervision of Dr. Sedighi

## PROJECTS*(Continued)*

### Twitter— *Fall 2021*

This project is a sample version of Twitter that has the abilities to create accounts, follow other accounts, switch accounts, and do activities like comment, like, retweet and etc. The project's GUI has been created with JavaFX in both Light and Dark Mode.

Advanced Programming Final Project
Under the supervision of Dr. Edalat

### Lights Out Game Cheater — *Spring 2022*

This project finds a cheat sheet for the lights out game based on linear algebra methods.

Applied Linear Algebra Final Project Part I
Under the supervision of Dr. AmirMazlaghani

### Chemical Equations Balancer— *Spring 2022*

This project is a solution for balancing chemical equations based on linear algebra methods.

Applied Linear Algebra Project
Under the supervision of Dr. AmirMazlaghani

### Image Histogram and Shadow Generator— *Spring 2022*

This project generates a histogram for input images and tries to generate a shadow for the main object.

Applied Linear Algebra Project
Under the supervision of Dr. AmirMazlaghani

### XV6 Project — *Spring 2022*

This project is divided into three phases:

- In the first phase we added some system calls to understand how system calls are implemented in the xv6 operating system.
- The second phase was about working with threads and realizing its difference versus processes.
- The third phase was much more complicated, based on CPU scheduling. We implemented the RR (Round Robin) algorithm, preemptive priority scheduling algorithm, preemptive multilevel queue scheduling algorithm, and lottery algorithm in the xv6 operating system.

Operating Systems course Final Project
Under the supervision of Dr. Javadi

### Bank Security— *Spring 2022*

This project simulates a system that controls access to a bank's rooms.

Microprocessor and Assembly Final Project

Under the supervision of Dr. Farbeh

## PROJECTS*(Continued)*

### Message Broker— *Spring 2022*

This project is a message broker based on python A message broker (also known as an integration broker or interface engine) is an intermediary computer program module that translates a message from the formal messaging protocol of the sender to the formal messaging protocol (TCP) of the receiver.

Computer Networks Final Project
Under the supervision of Dr. Sabaei

### Machine Learning Projects— *Summer 2022*

- **Deep Learning:**
  **Handwriting Detection:**

  This project worked on a dataset including numbers in different handwritings and tried to recognize and classify them into their own number group. The project used PCA in order to reduce the dimension of the dataset and after following the needed procedure used SVM as the main model to predict the number group for each handwriting.

- **Supervised Learning:**

  ***Classification:***

  **Ad Click Prediction:**

  This project worked on a dataset including data about advertisements on websites and predicting whether customers click on them or not, using classification algorithms such SVM, Naive Base, KNN, etc.

  **Heart Disease Health indicators:**

  This project worked on a dataset including data about patients with medical details and predicts if there is a risk of heart attack for them.

  **Titanic Survivor Predictor:**

  This project worked on a dataset about titanic ship passengers and tried to predict which passengers survived.

  ***Regression :***

  **HDB Flat Prices Predictor:**

  In this project, using the dataset of different houses and their characteristics in the US states, we tried to estimate their approximate prices.

## PROJECTS*(Continued)*

- **Unsupervised Learning:**

  ***Clustering*** :

  **Online Retail:**

  In this project, it was tried to perform optimal clustering on the dataset related to the houses of the United States by k-means, DBScan, and Mean Shift algorithms.