

AMIRHOSSEIN SOROUR

CE Department, Amirkabir University of Technology

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RESEARCH INTERESTS

- Artificial Intelligence
- Machine Learning
- Optimization
- Data Mining
- Natural Language Processing
- Computer Vision

EDUCATION

Amirkabir University of Technology (Tehran Polytechnic)

2018 – 2022(Expected)

Bachelor of Science in *Computer Engineering* (Rank 2 among all Iranian Universities)

Tehran, Iran

- Cumulative Grade Average till now for:

Total 114 units: **16.64/20**

Last year courses: **17.44/20**

Selected coursework: **18.62/20**

- ✧ Principles of Computational Intelligence(**20/20**)
- ✧ Linear Optimization(**20/20**)
- ✧ Math.(I)&(II) (**20/20**)
- ✧ Research and Technical Presentation(**19.5/20**)
- ✧ Advanced Programming(**19/20**)
- ✧ Fundamentals of Computer Programming(**17.75/20**)
- ✧ Differential Equations(**17.8/20**)
- ✧ Signals and Systems(**17.25/20**)
- ✧ Information Retrieval(**17.15/20**)
- ✧ Algorithm Design(**17/20**)

Shahid Dr.Alimohammadi High School

2014 – 2017

Diploma in Physics and Mathematics Discipline

Tehran, Iran

- Cumulative Grade Average: **19.76/20**

TEACHING EXPERIENCE

Teaching Assistant, *Computer Engineering Department, Amirkabir University of Technology*

- **Signals and Systems**, Instructor: *Prof. Mohammad Rahmati* Spring 2022
- **Research and Technical Presentation**, Instructor: *Prof. Reza Safabakhsh* Spring 2022
- **Applied Linear Algebra**, Instructor: *Assistant Prof. Mostafa Haghir Chehreghani* Spring 2021
- **Applied Linear Algebra**, Instructor: *Assistant Prof. Ehsan Nazerfard* Fall 2020
- **Discrete Mathematics**, Instructor: *Assistant Prof. Mostafa Haghir Chehreghani* Fall 2020

WORK EXPERIENCE

MABNA Intelligent Technologies

July 2022 – Sep. 2022

Front-End Developer Intern

Tehran, Iran

- Assisting in changing the software stack of a news aggregator website
- Migrating from a Next JS project to React JS
- Collaborating with Back-End developer to migrate from Flask framework to Django

Crouse (P.S.J) Co.

Feb. 2021 – June 2021

R&D Software Engineer Intern, Co-Op student

Tehran, Iran

- Working with Powertrain ECU software team
- Analyzing and converting test scripts to automate software testing
- Developing a program with python for processing test script languages and extracting test data
- Getting Familiar with software unit testing and compound testing and the automation process of software testing

HONORS & REWARDS

- Eligible to Choose **Second Major** due to outstanding performance, Computer Engineering Department, Amirkabir University of Technology, Tehran, Iran, 2019.
- **Ranked top 0.4%** place among all applicants for the University Entrance Nationwide Exam (Approximately 140,000 applicants) in Mathematics and Physics Discipline, Iran, 2018.
- **Ranked top 0.7%** place among all applicants for the University Entrance Nationwide Exam (Approximately 120,000 applicants) in Foreign Languages (English), Iran, 2018.

NOTABLE PROJECTS

- Solving Linear Programming Problems by Graphical Method** | [Code on GitHub](#) May 2022
- Visualized how to solve linear programming problems by graphical method, using manim library in Python
- Fuzzy Inference System for Tip Payment in Restaurant** | [Code on GitHub](#) January 2022
- Developed a fuzzy system that determines the amount of tip in a restaurant given crisp inputs (quality of food and service), implemented in 3 distinct sections: fuzzification, inference and defuzzification
- Persian News Search Engine** | [Code on GitHub](#) Fall 2021
- Developed a document retrieval system using positional indexing, tf-idf method, classification, clustering and word embedding, implemented in 3 different phases
- Implementation of Machine Learning Algorithms** | [Code on GitHub](#) August 2021
- Implemented some of the machine learning algorithms: Linear Regression, Logistic Regression, Neural Network, K-means Clustering, Principal Component Analysis (PCA) using Octave programming language
- Test Files Format Converter** | [Code on GitHub](#) April 2021
- Implemented a format converter and syntax analyzer for text files with .ptu extension (kind of test files) and automating the process of extracting and exporting data of these files

ACADEMIC COURSE PROJECTS

- Data Mining** | *Diabetes Diagnosis Classification* Spring 2022
- Implemented an XGBoost classifier and steps including data preprocessing and hyperparameter tuning
- Principles of Computational Intelligence** | *Fruits Classifier* Fall 2021
- Implemented a feed-forward fully connected neural network for classifying images of fruits
- Programming Languages** | *NUMEX Interpreter* Fall 2021
- Implemented an interpreter for a simple programming language called NUMEX in Racket
- Principles and Applications of Artificial Intelligence** | *Poet Guesser* Fall 2020
- Developed a program with Python to guess the poet of a given poem using NLP models
- Principles and Applications of Artificial Intelligence** | *Colored Cards Sorting* Fall 2020
- Developed a program with Python to sort a bunch of colored cards using AI search algorithms: BFS, IDS, A*
- Principles of Database Design** | *Library Database* Fall 2020
- Designed and implemented a relational database for managing a set of libraries
- Software Engineering** | *Online Music Player* Spring 2020
- Designed an online music player software based on requirements and diagrams: Use Case, Sequence, Deployment, etc.
- Advanced Programming** | *Jpotify Music Player* Spring 2019
- Designed and developed a music player similar to Spotify using Java GUI and socket programming
- Fundamentals of Computer Programming** | *Forgotten Future Game* Fall 2018
- Developed a simple strategy game in C programming language as the final project of the course

ACADEMIC COURSE REPORTS

- ◆ Sorour, A., Ardestani, M., Siavashpoor, M. and Poorghasem, H., “[Convolutional Neural Networks](#)” - presentation report for “Data Mining” course, Tehran, Iran, 2022. (*in Persian*)
- ◆ Sorour, A., “[Persian Document Retrieval System](#)” - technical report for implementing a static search engine: algorithms, methods and reason of their usage, literature reviews for “Information Retrieval” course, Tehran, Iran, 2022. (*in Persian*)
- ◆ Sorour, A., “[Reinforcement Learning in Games: A Survey](#)” - a literature review of recent studies for “Research & Technical Presentation” course, Tehran, Iran, 2021. (*in Persian*)

CERTIFICATES

Online Courses ([Coursera](#)):

- **Deep Learning Specialization** DeepLearning.AI
 - *Neural Networks and Deep Learning* ([Grade:98.37%](#))
 - *Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization* ([Grade:98.2%](#))
 - *Structuring Machine Learning Projects* ([Grade:95.83%](#))
 - *Convolutional Neural Networks* ([Grade:96.5%](#))
 - *Sequence Models* ([Grade:98.5%](#))
- **TensorFlow Developer Professional Certificate** DeepLearning.AI
 - *Introduction to TensorFlow for Artificial Intelligence, Machine Learning, Deep Learning* ([Grade:98.52%](#))
- **Mathematics for Machine Learning Specialization** Imperial College London
 - *Mathematics for Machine Learning: PCA* ([Grade:100%](#))
- *Machine Learning* ([Grade:97.25%](#)) Stanford University
- *Introduction to Complex Analysis* ([Grade:89.36%](#)) Wesleyan University
- *Introduction to Mathematical Thinking* ([Grade:96.43%](#)) Stanford University

SKILLS

Technical Skills

- *Programming Languages and HDLs:* Python, Java, JavaScript, C, C++, VHDL, Verilog
- *Tools and Typesetting:* Git, Jira, Microsoft Word and Excel, L^AT_EX
- *Familiar with:* MySQL, HTML5, CSS3, React, Octave, MATLAB

Personal Skills: Willingness to learn and teach, Multitasking, Problem solving, Organized person

Language Skills: Persian (native), English (fluent), Arabic (familiar)

- **Course Completion Certificate at Advanced Level**, *English Department, Iran Language Institute (ILI)* July 2017
- ➡ **TOEFL iBT:** Registered for November 12, 2022

VOLUNTEER & EXTRACURRICULAR ACTIVITIES

- **Students' Scientific Chapter**, Computer Engineering Department, Amirkabir University of Technology
 - Member of Executive committee of 6th Amirkabir Artificial Intelligence Competitions ([AAIC](#)) May 2022
 - Member of Executive committee of 3rd Data Mining Challenge ([DMC@AAIC](#)) Dec. 2021
 - Member of Executive committee of 19th Local ACM contest ([AUT-ICPC](#)) Nov. 2019
 - Member of Executive committee of 6th Amirkabir Programming League (APL) May 2019
- **Students' Guild Council**, Computer Engineering Department, Amirkabir University of Technology
 - Editor-in-chief of Pouyesh Student Magazine August 2021 – May 2022
(*Students' Guild Council Publication*)
 - Member of Students' Guild Council June 2019 – June 2021

REFERENCES

- ✧ *Official certificates, documents and references are available upon request.*