AMIRHOSSEIN SOROUR

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EDUCATION

Concordia University 2023 – 2025(Expected)
Master of Computer Science, The Immersive & Creative Technologies Lab (ICT lab) *Montréal, Canada*
- Supervisor: *Prof. Charalambos Poullis*

Amirkabir University of Technology (Tehran Polytechnic) 2018 – 2023
Bachelor of Science in Computer Engineering (Rank 2 among all Iranian Universities) *Tehran, Iran*
- Thesis (**19.5**/20): **Automatic Detection of Instrument and Scale for Persian Traditional Music**
- Supervisor: *Prof. Mohammad Mehdi Homayounpour*
- Cumulative Grade Average: **16.89**/20

WORK EXPERIENCE

MABNA Intelligent Technologies Jul 2022 – Aug 2022
Front-End Developer Intern *Tehran, Iran*
- Assisted in changing the software stack of a news aggregator website
- Migrated from a Next JS project to React JS
- Collaborated with Back-End developer to migrate from Flask framework to Django

Crouse (P.S.J) Co. Feb. 2021 – June 2021
R & D Software Test Analyst, Co-Op student *Tehran, Iran*
- Developed a Python program to process test scripts and extract essential test data
- Automated data entry from raw test files into Excel sheets, streamlining the information for further processing
- Analyzed extracted data to evaluate software unit testing and compound testing results
- Assisted the ECU software team in automating the software testing process

Pars Technology Sadad Sep 2020 – Feb 2021
Customer Service Support Specialist *Tehran, Iran*
- Assisting clients with troubleshooting and optimizing their experience with the mobile banking app and the Bale messenger platform, ensuring seamless user experiences

Amirkabir University of Technology Sep 2020 – Apr 2022
Teaching Assistant, Computer Engineering Department *Tehran, Iran*
- Signals and Systems
- Research and Technical Presentation
- Applied Linear Algebra
- Discrete Mathematics

RESEARCH EXPERIENCE

Undergraduate Research Assistant, *Amirkabir University of Technology* Jun 2022 - Jun 2023
- This research focused on employing deep learning and audio processing techniques to automate the classification of instruments in Persian traditional music into five categories, while also identifying the musical scale into seven correlated types. The project involved the use, comparison, and evaluation of different neural networks for effective classification.

ONLINE COURSES & CERTIFICATES

[🔗] **Deep Learning Specialization** DeepLearning.AI
[🔗] *TensorFlow for Artificial Intelligence, Machine Learning, Deep Learning* DeepLearning.AI
[🔗] *Mathematics for Machine Learning: PCA* Imperial College London
[🔗] *Machine Learning* Stanford University
[🔗] *Introduction to Complex Analysis* Wesleyan University
[🔗] *Introduction to Mathematical Thinking* Stanford University

Honors & Rewards

- **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

Hyperparameter Tuning, Transfer Learning, and Feature Extraction in Computer Vision | 🔗   Nov 2023
- ➤ Exploring ResNet-18 CNN classifier on diverse datasets, comparing model performances, and analyzing feature extraction using t-SNE for visualizations

Solving Linear Programming Problems by Graphical Method | 🔗   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 | 🔗   Jan 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 | 🔗   Sep 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 | 🔗   Aug 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 | 🔗   Apr 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

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   Aug 2021 – May 2022
  (Students' Guild Council Publication)
- ○ Member of Students' Guild Council   Jun 2019 – Jun 2021

Skills

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

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