

AMIRHOSSEIN SOROUR

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WORK EXPERIENCE

-
- Front-End Developer Intern** *MABNA Intelligent Technologies* Jul 2022 – Aug 2022
- Assisted in changing the software stack of a news aggregator website
 - Collaborated with Back-End developer to migrate from Flask framework to Django
- R & D Software Test Analyst** *Crouse (P.S.J) Co.* Feb 2021 – Jun 2021
- 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
- Customer Service Support Specialist** *Pars Technology Sadad* Sep 2020 – Feb 2021
- Provided client support using CRM tools to ensure a seamless user experience with the mobile banking app

ACADEMIC EXPERIENCE

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- Graduate Research Assistant** *The ICT Lab, Concordia University* Sep 2023 – May 2024
- Conducted semantic segmentation and employed language model techniques to identify buildings within LiDAR maps
 - Developed a learning-free algorithm for reconstructing planar roofs from 3D airborne LiDAR point clouds
- Undergraduate Research Assistant** *Amirkabir University of Technology* Jun 2022 – Jun 2023
- Employed deep learning techniques to automate the classification of Persian traditional music instruments
 - Evaluated various neural networks for identifying musical scales, enhancing the project's classification effectiveness
- Teaching Assistant** *Computer Engineering Department, Amirkabir University of Technology* Sep 2020 – Apr 2022
- Led TA team by standardizing assignment grading and evaluation via an Excel-based system
 - Coordinated the scheduling of course deliverables and prepared content outlines for each TA session
 - Assisted in teaching mathematical key courses, including Applied Linear Algebra and Discrete Mathematics


EXTRACURRICULAR ACTIVITIES


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- ➡ **Computer Engineering Department, Amirkabir University of Technology** *Tehran, Iran*
- ◆ **Editor-in-chief, Pouyesh Student Magazine** *Students' Guild Council Publication* Aug 2021 – May 2022
 - Managed a collaborative team of writers, editors, and designers in publishing monthly editions of the student magazine
 - ◆ **Student Affairs and Events Coordinator** *Students' Guild Council* Jun 2019 – Jun 2021
 - Collaborated with council members in organizing numerous events to enhance student engagement and community
 - Served as liaison between students and university staff, resolving concerns through facilitated consensus
 - Led initiatives to boost student involvement and teamwork, fostering a supportive campus environment
 - ◆ **Exective Commitee Member** *Students' Scientific Chapter* May 2019 – May 2022
 - Assisted in organizing scientific events, including the Artificial Intelligence Competition and Data Mining Challenge


EDUCATION

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- Concordia University** 2023 – 2025
Master of Computer Science (MCompSc) GPA: 3.2/4 *Montreal, Canada*
- Amirkabir University of Technology (Tehran Polytechnic)** 2018 – 2023
Bachelor of Science in Computer Engineering GPA: 3.3/4 *Tehran, Iran*
- Selected Coursework:* ◆ Data Mining(A⁺) ◆ Research and Technical Presentation(A⁺)

ONLINE COURSES & CERTIFICATES

 Deep Learning Specialization

 Machine Learning


 Introduction to Software Product Management

 Foundations: Data, Data, Everywhere

NOTABLE PROJECTS

Detection of Distracted Driver using Convolutional Neural Networks |  Apr 2024


- ✧ Applied VGG-16 architecture to detect distracted driving behaviors using in-vehicle camera system data
- ✧ Enhanced computational efficiency and reduced model complexity by modifying the model's architecture
- ✧ Developed a MATLAB script for data augmentation, enriching the dataset and improving model performance

Hyperparameter Tuning, Transfer Learning, and Feature Extraction in Computer Vision |  Nov 2023

- ✧ Explored ResNet-18 CNN classifier on diverse datasets and compared model performances
- ✧ Analyzed 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 to calculate restaurant tips from crisp inputs like food and service quality
- ✧ Implemented the system in three stages: fuzzification, inference, and defuzzification

Persian News Search Engine |  Sep 2021

- ✧ Developed a document retrieval system using positional indexing, tf-idf method, classification, and clustering
- ✧ Implemented the system in three phases with word embedding techniques

Implementation of Machine Learning Algorithms |  Aug 2021

- ✧ Implemented machine learning algorithms such as Linear Regression, Logistic Regression, and Neural Network
- ✧ Used Octave programming language for K-means Clustering and Principal Component Analysis (PCA)

Test Files Format Converter |  Apr 2021

- ✧ Implemented a format converter and syntax analyzer for text files, automating the extraction and export of data

ACADEMIC REPORTS

- ✦ **Sorour, A.**, Jabbari, A., Danaee, G. and Sargordi, S., “[Detection of Distracted Driver using Convolutional Neural Networks](#)” - presentation report for a project inspired by B. Baheti et al. at the 2018 IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW), Montreal, Canada, 2024.
- ✦ Shabani, A., **Sorour, A.**, Fathollahzadeh, S. and Kerwin, R., “[Convolutional Neural Networks for multi-class classification tasks](#)” - technical report on hyperparameter tuning, transfer learning, and feature extraction in computer vision, Montreal, Canada, 2023.
- ✦ **Sorour, A.**, “[Automatic Detection of Instrument and Scale for Persian Traditional Music](#)” - BSc thesis report, Amirkabir University of Technology, Tehran, Iran, 2023. (*in Persian*)

SKILLS

Technical Skills

- *Programming Languages:* Python, Java, Javascript, C, C++, Matlab, MySQL, HTML5, CSS3
- *Tools and Typesetting:* Git, Jira, Microsoft Word and Excel, L^AT_EX
- *Data Analysis Software Packages:* NumPy, Pandas, Matplotlib, Scikit-learn, TensorFlow, Keras, Jupyter Notebook

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

Language Skills: Persian (*native*), English (*fluent*), French (*familiar*)

Hobbies and Interests: Playing the Santur and Setar, two beautiful Iranian musical instruments