Mahdi Rezaie

Computer Engineering Student

(+98)9222125088 | mahdi.rezaie.336@gmail.com | ce.aut.ac.ir/ 9728040 | github.com/mahdirezaie336 | linkedin.com/in/mahdirezaie336

Research Interests

- Artificial Intelligence and Machine Learning
- Natural Language Processing (NLP) and Text Analysis
- Computer Vision and Image Processing
- Deep Learning and Neural Networks
- Reinforcement Learning and Decision-Making Systems

Education

Amirkabir University of Technology (Tehran Polytechnic)   *Tehran, Iran*

Bachelor of Science in Computer Engineering   *2019 - 2024*

- Ranked as the top 2 technical university in Iran with a QS Ranking of 403.
- **Total GPA:** 3.95 out of 4 (18.5 out of 20)
- **Main Majors:** Artificial Intelligence and Computer Networks
- **Related Courses:** Principles of Computational Intelligence (20/20), Data Structures and Algorithms (20/20), General Math and Statistics Courses (20/20), Cloud Computing (20/20), Operating Systems (20/20), Database Design (19.3/20), IoT (20/20).
- **Thesis Project:** Design and Implementation of a Static Code Analysis Tool for Security Purposes
- **Supervisor:** Dr. Hamid Reza Shariari

Publications

Learning a Sparse Neural Network Using IHT
  Saeed Damadi, Soroush Zolfaghari, Mahdi Rezaie, Jinglai Shen
  2024 International Joint Conference on Neural Networks (IJCNN), 2024, Yokohama, Japan

Teaching Experience

Karyar Institute   *Tehran, Iran*

Teacher   *April 2021 - May 2023*

- **Data Analysis with Python:** Teaching for over 10 students.
- **Advanced Python Programming:** Teaching for over 20 students.
- **Collaborators:** Dr. Arezou Keshavarz, Bahar Zarin, and Eng. Azade Sanjari.

Karyar Institute   *Tehran, Iran*

Teaching Assistant   *April 2021 - May 2023*

- **Advanced Data Analysis with Python**
- **Advanced Python Programming**
- **Instructors:** Dr. Arezou Keshavarz, Eng. Hesam Mohammad Hosseini, Eng. Shamim Taheri, and Eng. Azade Sanjari.

Amirkabir University of Technology   *Tehran, Iran*

Teaching Assistant   *Fall and Winter 2022*

- **Operating Systems:** Instructor: Dr. Seyyed Ahmad Javadi
- **Data Structures:** Instructor: Dr. Sajad Shirali-Shahreza
- **Algorithm Design:** Instructor: Dr. Alireza Bagheri
- **Microprocessor and Assembly Language:** Instructor: Dr. Hamed Farbeh

Achievements

2022	**3rd Ranking,** Fifth National Brain Mapping Lab (NBML) Competitions in fMRI Data Analysis	*Tehran*
2020	**Talented Student,** Awarded as university's exceptionally talented student	*Tehran*
2018	**Top 2.1%,** Ranked in the top 2.1% of the nationwide university entrance exam	*Iran*

Languages

English   Upper Intermediate
Persian   Native proficiency

Work Experience

A Fin-tech Startup (Remote Job)   *Maryland, USA*
Mid-Level Data Scientist and Software Engineer   *April 2022 - September 2024*
- Developed a scalable trading platform for stocks and cryptocurrency using microservices, Redis, and event-driven architecture. Conducted time-series data analysis with Python and AI frameworks (PyTorch, NN models), and worked with big data tools (Spark, Hadoop, HBase).

Institute for Research in Fundamental Sciences (IPM)   *Tehran, Iran*
AI Research Intern   *2021 Summer*
- Worked on pneumonia detection using medical image classification with Python, TensorFlow, and related libraries (Pandas, Numpy, Scipy).

Skills

Programming Languages	Advanced Python, C, C++, Java, JavaScript, Go, SQL, etc.
Data and Machine Learning	Engineering Statistics, Pandas, NumPy, Scikit-learn, PyTorch, Spark
Cloud Platforms	Google Cloud Platform, Amazon AWS
Data Visualization	Plotly, Plotly-Dash, Matplotlib, Databricks, Seaborn, Google Looker Studio
Web Development	RESTful, FastAPI, Django, React.js, Bootstrap
Documentation	Markdown, Sphinx, LaTeX, Read the Docs, MS Office
Databases	MySQL, Redis, Google BigQuery, Apache HBase, SQL Server, Amazon S3
Software Development Tools	Git, ORM with SQLAlchemy, RabbitMQ, Diagramming, JetBrains, VSCode, Linux, Bash Scripting
Virtualization	Docker and Kubernetes, VirtualBox, VMware
Network Tools	Wireshark, Postman, Swagger, Boson Netsim
Soft Skills	Teamwork, Attention to Detail, Problem-solving, Willing to learn, Engaging Presentation, Brainstorming

Notable Academic Projects

AI Projects   *Tehran, Iran*
Amirkabir University of Technology   *2020-2023*
- **Fruit360Classifier:** An implementation of a classifier neural network from scratch. *[code]*
- **SnailJumperAgent:** A neuroevolutionary model for Snail Jumper game. *[code]*
- **ALSRecommenderSystem:** A recommender system uses collaborative filtering implemented in Spark. *[code]*
- **FuzzyPendulum:** A solution to inverted pendulumn using fuzzy methods and AI. *[code]*
- **NLPCommentRemover:** Implementation of an NLP agent for sentimental analysis. *[code]*
- **GimmeButter:** A servant robot trying to serve as fast as possible using A* algorithm. *[code]*

Software Engineering Projects   *Tehran, Iran*
Amirkabir University of Technology   *2020-2023*
- **Poster:** A back-end services for an online vehicle ad platform using Django. *[code]*
- **CryptoServerWrapper:** A wrapper for the Coinbase API using Flask. *[code]*
- **XV6-Threading:** Implementation of Thread concept in XV6 Linux OS. *[code]*
- **GuessGender:** A website which helps to find out gender of a name. *[website] [code]*
- **IMDB:** A go-lang back-end for a web service like IMDB *[code]*

Security and Network Projects   *Tehran, Iran*
Amirkabir University of Technology   *2021-2023*
- **SSHChatroom:** A server-client chatroom application uses SSH to communicate securely. *[code]*
- **AESTools:** A tool for encryption and decryption of files using AES algorithm. *[code]*
- **mDHCP:** Implementation of a DHCP server from scratch. *[code]*
- **ReverseMalware:** A malware to get a reverse shell from victim. *[code]*

Certificates

2022	**Introduction to Big Data with Spark and Hadoop,** https://coursera.org/share/ccb39f4888082fc7540037dfb76a5c01	*Coursera*
2021	**Advanced Python Programming,** https://quera.org/media/public/quera_certificate/5144713a7e67473a807c4c9b0a2e68f1.jpg	*Quera College*