Parisa Shahabinejad

prisashahbi@gmail.com
+98-9367205062
linkedin.com/in/parisa-shahabi/
github.com/parissashahabi
live:.cid.15672503097ec26

Education

University of Isfahan — Isfahan, Iran
B.SC. in Computer Engineering; Overall GPA: 18.26/20.00 (3.82/4) — *2019-Present*

Last two years' GPA: 19.27/20.00 (3.9/4)

3rd highest GPA among 100 B.Sc. Computer Engineering students (class of 2023)

Related Courses:

- Artificial Intelligence and Expert Systems (20/20)
- Fundamentals of Computational Intelligence (20/20)
- Human-Computer Interaction (19.92/20)
- Fundamentals of Data Mining (20/20)
- Fundamentals of Information Retrieval and Web Search (19.25/20)
- Data Structures (20/20)
- Discrete Mathematics (19.5/20)
- Principles of Compiler Design (20/20)
- Theory of Formal Languages and Automata (18.5/20)
- Computer Networks (19.2/20)

University of Isfahan — Isfahan, Iran
Minor in Mathematics — *2021-Present*

Related Courses:

- Graph Theory
- Fundamentals of Matrices and Linear Algebra
- Fundamentals of Combinatorics
- Fundamentals of Mathematical Analysis
- Probability I
- Linear Optimization
- Fundamentals of Mathematical Sciences

Farzanegan High School — Isfahan, Iran
High School Diploma of Mathematics and Physics; Overall GPA: 19.81/20.00 — *2016-2019*

Affiliated with the National Organization for the Development of Exceptional Talents (NODET)

Research Interests

- Machine Learning
- Generative Models
- Biomedical Informatics
- Reinforcement Learning
- Deep Learning
- Optimization Problems

Professional Experience

IPM Institute For Research in Fundamental Sciences — Tehran, Iran
Internship — *June 2023-September 2023*

- Developed an intelligent agent for the game "Soccer Stars" to compete with human players
- Key focus on computer vision, evolutionary algorithms, and physics simulation
- Utilized computer vision techniques for accurate perception and interpretation of game visuals
- Integrated a custom-trained YOLOv5 model for object detection
- Employed evolutionary algorithms for strategic decision-making and action execution
- Implemented physics simulation to replicate and calculate in-game physics interactions
- Optimized physics parameters via genetic algorithms for accurate in-game simulation

Ahan Online — Tehran, Iran
Junior Frontend Developer — *August 2021-March 2022*

- Developed high-performance, reusable components using React, TypeScript, and Next.js with a special focus on code readability and maintainability
- Successfully transformed over 50% of the codebase into React components across multiple projects
- Collaborated with a diverse cross-functional team of 20 members, including backend developers, UI/UX designers, and product owners, to implement new features and systems within an agile environment
- Addressed and resolved 50+ issues and high-priority functional bugs based on QA analysis using Jira

Mehregan Workshop Isfahan, Iran
Volunteer Developer and Instructor *September 2020-May 2021*

- Contributed to the development of the Interkarsolar website as a Frontend Developer, utilizing React and Material-UI
- Designed and implemented JavaScript-based algorithmic games for educational purposes
- Instructed a junior-level Game Theory course in Spring 2021

Selected Course Projects

Wireless Sensor Network Optimization Using Evolutionary Algorithms: Implemented an evolutionary algorithm to optimize the cost and service quality of a city-wide communication network by adjusting the number, location, and transmit power of sensor nodes.

Game-Playing Intelligent Agent with Reinforcement Learning: Implemented reinforcement learning algorithms, including Value-Iteration and Q-Learning, for a 2D grid world Markov Decision Process resembling a Pac-Man game. Also applied the Mini-Max algorithm and common path-planning techniques such as A*, Dijkstra, and bidirectional search.

Comparison of MLP and RBF as Classifiers on CIFAR-10: Implemented Multilayer Perceptron (MLP) and Radial Basis Function (RBF) neural networks from scratch in Python and used ResNet-34 as a feature extractor. Evaluated and compared the classification accuracy of the two networks on the CIFAR-10 dataset.

Neural Architecture Search for CIFAR-10 Image Classification Using Evolutionary Algorithms: Applied evolutionary algorithms to automate deep neural network design for image classification. The network architecture was optimized by selecting the best feature extractor, number of hidden layers, number of neurons, and activation function from a predefined search space.

Clustering of Image Feature Vectors Using Self-Organizing Map: Applied a self-organizing map network to cluster feature vectors extracted from ResNet-34 on the CIFAR-10 dataset. Explored different network configurations, such as one-dimensional and two-dimensional topologies and neighborhood radius, to analyze the clustering results.

Travel Insurance Prediction Model: Developed a predictive model to forecast travel insurance subscriptions using MLP Classifier and Logistic Regression after data analysis and preprocessing in Python.

Behavioral Data Clustering and Gender Correlation Analysis: Clustered behavioral data into two groups, regardless of gender, and evaluated cluster consistency with gender division using silhouette and Davies-Bouldin scores.

Applicant Project Score Prediction Based on Technical Test Results: Developed a model to predict project scores based on technical aptitude test results. Cleaned and normalized the data, then applied regression analysis to forecast grades.

Persian News Article Text Classification Using Pre-trained BERT Model: Developed a text classification model to categorize Persian news articles into seven topics by fine-tuning the Hugging Face pre-trained models.

Jobonja - A Dynamic Job Portal Website: Developed a Next.js-powered website that connects job seekers and employers, implementing design patterns, unit tests, CI/CD, and frontend optimization techniques for enhanced performance as part of the Object-Oriented Design course project.

Heifes - E-commerce Platform Development: Developed Heifes, a Next.js-based e-commerce platform, connecting users with stores having surplus unsold food. Implemented with Scrum, detailed UML diagrams, 60% test coverage via Jest, and Cypress integration tests.

Teaching Experience

Teaching Assistant University of Isfahan
Computer Architecture, Dr. Zohre Beiki *Fall 2022*

Teaching Assistant University of Isfahan
Data Structures, Dr. Reza Ramezani *Fall 2021*

- Designed the course project for the practical application of study materials

Teaching Assistant University of Isfahan
Advanced Programming, Dr. Ahmadreza Montazerolghaem *Spring 2020*

- Designed the course project for the practical application of study materials
- Facilitated weekly mentoring sessions for students' course projects

Teaching Assistant University of Isfahan
Fundamentals of Computer and Programming, Dr. Hossein Mahvash *Fall 2020*

- Developed and graded homework assignments

Instructor Mehregan Workshop
Game Theory *Spring 2021*

- Instructed a junior-level course on game theory

Skills

Natural Languages: Farsi (Native), English (Fluent)

Programming Languages: Python, C++, JavaScript, and TypeScript

Machine Learning: Familiar with Pandas, NumPy, Scikit-Learn, Matplotlib, OpenCV, Keras, TensorFlow, PyTorch, and fundamental topics such as classification, clustering, reinforcement learning, and neural networks

Software Engineering: Familiar with software design patterns, SOLID design principles, and software development methodologies such as Agile

Web Development: React, Next.js, JavaScript, TypeScript, HTML, CSS, Redux, Jest, Cypress, Mongoose, Tailwind, Bootstrap, Material-UI, Ant Design

Others: SQL, MongoDB, Git, Jupyter, Scrum, Algorithms, Data Structures, Object-Oriented Programming

Test Scores

TOEFL iBT: R: 29, L: 28, S: 25, W: 24, Overall: 106

Academic References

Hossein Karshenas
Assistant Professor, Computer Eng. Dept., University of Isfahan ✉ h.karshenas@eng.ui.ac.ir

Zahra Zojaji
Assistant Professor, Computer Eng. Dept., University of Isfahan ✉ z.zojaji@eng.ui.ac.ir

Reza Ramezani
Assistant Professor, Computer Eng. Dept., University of Isfahan ✉ r.ramezani@eng.ui.ac.ir