Rashin Gholijani Farahani

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Education

MSc in Computer Engineering (Artificial Intelligence)
Azad University, Karaj (2024 – Present)

- *Specialization: Machine Learning, Text Mining, Image Processing*
- *Research Focus: AI applications in sustainability, optimization, and real-world problem-solving*

BSc in Computer Engineering
Azad University, Karaj (2021 – 2024)

- GPA: 17.77/20 (Graduated in 3 years)
- Notable coursework: Artificial Intelligence, Database Systems, Software Engineering.

Research Experience

Portfolio Optimization Using Genetic Algorithms *(Ongoing)*

- Developed a hybrid model leveraging Genetic Algorithms for portfolio optimization, integrating ESG criteria and real-time metrics like 50-day moving averages.
- Demonstrated superior performance over classical methods, with a 39% improvement in Sharpe Ratio and significant risk reduction.
- Presented findings at internal workshops, targeting publication in a high-impact journal.

Metaheuristic Algorithms in Video Games: A Case Study of Pac-Man , International Conference Presentation – Amirkabir University of Technology

10/2023 – 12/2024

- Applied Particle Swarm Optimization (PSO) to enhance NPC behavior in Pac-Man, achieving a 40% improvement in average scores.
- Reduced ghost encounters by 30% and level completion time by 25%.

Machine Learning for ADHD Diagnosis*(Ongoing)*

- Engineered machine learning models for ADHD classification, achieving a 15% accuracy boost using advanced feature selection.
- Reduced false-positive rates by 20% through innovative data preprocessing techniques.

Professional Experience

Frontend Development Instructor
Tehran Institute of Technology (2023 – Present)

- Taught React, JavaScript, and TypeScript to **+ 35** students, achieving a 20% increase in project completion rates.
- Organized workshops, leading to a 30% job placement rate for participants.

AI & Data Science ResearcherMachine
Machine Learning in Healthcare (2025 – Present)

- Conducting research in AI-driven medical data analysis and predictive modeling.
- Specializing in Machine Learning models for healthcare applications.

IT Specialist
Sharif University of Technology Career Fair (November 2024)

- Delivered technical consultations on AI and web development, enhancing booth engagement by 65% & Providing guidance to over **1,000 attendees** in various computer science domains.

Frontend Developer Intern – Vimate Startup

02/2023 – 09/2023

- Reduced web platform load times by 25% using React and Next.js.
- Conducted code reviews, decreasing bugs by 15%.

Artificial Intelligence Mentor – Azad University

01/2023 – 06/2023

- Mentored **50+** students on AI-focused capstone projects, guiding them in algorithm design and programming.
- Led sessions that boosted AI competition participation by 40%.

Technical Skills

Programming & Development

- **Languages**: Python (Advanced), JavaScript (Advanced),C++(Basic)
- **Frameworks**: React, Next.js, TypeScript (Advanced), Tkinter (Advanced)

AI & Data Science

- **Machine Learning**: Advanced model development, feature engineering, and performance optimization
- **Data Mining**: Proficient in data preprocessing, analysis, and visualization
- **Optimization**: Expertise in metaheuristic algorithms like PSO
- **Libraries**: TensorFlow, Scikit-learn, Pandas, NumPy, Matplotlib

Image and Language Processing

- **Image Processing**: Intermediate-Advanced (e.g., grayscale conversion, thresholding, histogram equalization)
- **Natural Language Processing (NLP)**: Intermediate-Advanced (e.g., text preprocessing, sentiment analysis, tokenization)

Other Tools

- Databases: SQL, MySQL (Advanced)
- Version Control: Git, GitHub (Advanced)
- Operating Systems: Linux/Ubuntu (Intermediate)

Publications and Projects

1. **Portfolio Optimization Using Genetic Algorithms: A Comprehensive Analysis** *(Under Review)*
2. **Metaheuristic Algorithms in Video Games: A Case Study of Pac-Man** *(MLKD 2024)*

Selected Projects:

- **Spam Email Classification:** Improved accuracy by 12% with optimized preprocessing.
- **Image Processing Tools:** Implemented features like histogram equalization, boosting speed by 15%.
- **IMDB-like Web Application :**Developed a full-feature web app using **React, Redux, and MockAPI** for data storage.
- **Sentiment Analysis for Consumer Behavior Prediction:**NLP-based IMDB review classifier
- **Ultra-Lightweight Image Classifier | MobileNetV2 & PyTorch :** Achieves 70%+ accuracy on CIFAR-10 in minutes

Awards and Achievements

- Peer Reviewer – Asian Research Journal of Mathematics (April 2025)
- Top BSc Graduate (2024)
- International Conference Recognition for AI Research *(MLKD 2024)*
- **Accepted as a Talent Student** for outstanding academic performance.

Languages

- English: Professional Working Proficiency (CEFR C2)