

# Mehdi Karami

📍 Shiraz, Iran

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## Summary

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- Proficient Machine Learning scientist with a strong background in developing AI-driven projects, resulting in advanced expertise in model training and performance optimization of algorithms.
- Highly motivated researcher with contributions to open-source projects, demonstrating strong skills in research, project management, and effective communication.
- Experienced programmer proficient in various programming languages and technologies, leading to work as an iOS Developer for an international company, winning a coding competition, holding a workshop, and earning certifications in programming courses.

## Education

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### Bachelor of Computer Engineering

Sep 2021 - Expected Jul 2025

Zand Institute of Higher Education

Shiraz, Iran

GPA: 3.42 (out of 4)

### Visiting Student

Feb 2023 - Jul 2024

University of Science and Culture

Tehran, Iran

## Research Interests

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- Machine learning
- Computational Neuroscience
- Programming Language Theory
- Bioinformatics
- Algorithm Design
- Compiler Design

## Work Experience

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### iOS Developer

Jun 2023 – Jun 2024

#### Round Table Apps

Development Office, Tehran, Iran

Contributed to the development of diverse, international-scale applications across various domains, including healthcare, finance, and post-transportation.

- **Resilience Box**

- Healthcare app focused on mental health management, providing online learning resources, well-being videos, an in-depth podcast series, informational fact sheets, and access to counseling and coaching services.

- **Blossom – Save and Invest**

- Savings app that helped users in Australia and New Zealand reach their financial goals faster by providing access to high-interest savings products.

- **MailPlus**

- Post-transportation app designed for postal service drivers across Australia.

### Technical Contributions:

- Utilized architectural and design patterns, such as Repository, VIP, MVC, and Clean Architectures, to manage project structure and layers.
- Conducting detailed research on the optimal utilization and development of augmented reality (AR) and virtual reality (VR) technologies, utilizing visionOS and other relevant technologies.
- Performed comprehensive research and analysis of data flow to ascertain the behavioral patterns of applications across various scenarios.
- Applied optimization techniques for real-time data processing.
- Implemented algorithms for financial calculations and optimizations.
- Conducted Behavior-Driven Development (BDD) to ensure robust and high-quality code.
- Created detailed documentation with Xcode DocC and Confluence.
- Collaborated with iOS and other teams including BackEnd, Test, Design, FrontEnd, and Android teams, using Scrum, Jira, and other management tools.

## Open Source Projects

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### ▪ AI Sight Quest

- Utilizes AI and machine learning to extract text from images via Apple’s Vision Framework and provides instant answers to document questions using the BERT language model.
- Stack: Machine Learning, Deep Learning, Swift, SwiftUI, SwiftData, Model-view-viewmodel (MVVM), Vision Framework, Speech Framework, TipKit, ...

### ▪ Proximity Finder

- Implemented with UIKit and MVC for efficient nearest point pair detection on a 2D screen, using Divide and Conquer for  $O(n \log n)$  complexity. Includes an interactive slider for dynamic point adjustment.
- Stack: Swift, UIKit, Model-View-Controller (MVC), Algorithm Design, Algorithm Optimization, Core Graphics, ...

### ▪ Book Bench

- Streamlines library seat reservations. Key features include SignUp, LogIn, and Reset Password views using Firebase Authentication and Database.
- Stack: Swift, SwiftUI, Model-view-viewmodel (MVVM), Reactive Programming, Lottie JSON, Figma, ...

### ▪ Heart Pulse Detector Project (BPM Counter)

- Programs a BPM calculator using an Arduino Uno board to check the user’s heart rate and display the pulse rate with a chart.
- Stack: C++, Arduino, PLC Programming, Heart Pulse Sensor, ...

### ▪ Command-line Game

- Demonstrates programming proficiency through command-line app develop, input and output handling, and game state management.
- Stack: Swift, Protocol-Oriented Programming (POP), Clean Architecture, ...

Explore more projects on my [GitHub account](#).

## Volunteering

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### Workshop on Git and GitHub (Techniques for Effective Collaboration)

May 2024

Credential ID 400434784

Tehran, Iran

K. N. Toosi University of Technology

### Contributor of Swift Evolution GitHub Repository

Since Dec 2023

Participated in the proposals of the Swift Evolution repository.

## Honors & Awards

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**Winning First Place in the C++ Programming Language Competition** May 2022  
Hosted by Zand Institute of Higher Education Shiraz, Iran

## Certificates

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**Swift for Beginners** Issued by Mind Luster  
Credential ID 1688271634 Mar 2023

**Theoretical understanding of Swift 4** Issued by Sololearn  
Credential ID CT-QD4IETGO Jan 2023

## Hobbies

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- Swimming
- Esports Gaming (LOL)
- Watching Movies
- Cooking International Cuisine
- Listening to Music
- Engaging with Social Media