

# Mohammad Mahdi Kheirkhah

[mahdikheirkhah060@gmail.com](mailto:mahdikheirkhah060@gmail.com)

+3584573482021

Mariehamn, Åland Islands

[Portfolio Website](#)

[LinkedIn](#)

[GitHub](#)

## Summary

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Full-stack developer with a B.Sc. in Computer Engineering and ongoing training at Grit:lab. Skilled in building scalable applications using Java (Spring Boot), Go, JavaScript frameworks like Angular and Vue.js, and databases like MongoDB. Experienced in microservices architecture, real-time features with WebSockets, and optimization algorithms. Seeking opportunities to apply problem-solving skills in dynamic tech environments.

## Skills

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- **Backend:** Java (Spring Boot), Golang, Python, C/C++
- **Frontend:** JavaScript, TypeScript, Angular, Vue.js, HTML, CSS
- **Databases:** SQL (Microsoft SQL Server), NoSQL (MongoDB)
- **Development & Tools:** Git, Docker, Kafka, Rest APIs, GraphQL
- **Other:** Embedded Systems (Arduino, AVR), Enterprise Architecture, Microprocessors

## Education and training

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### Student, Further Vocational Qualification in ICT | Grit:lab (Mariehamn, Åland) Sep 2024 – Aug 2026

- Intensive, project-based learning focused on Go, JavaScript (Vue, Angular), and Java (Spring Boot, Microservices).
- Emphasizes practical problem-solving, teamwork, and self-directed learning.

### Bachelor of Science, Computer Engineering | University of Kashan (Kashan, Iran) Oct 2019 – Sep 2024

- **Core Skills:** Object-Oriented Programming (C++), Algorithm Design & Analysis, Data Structures, Database Management (SQL), Operating Systems, Computer Networks, Internet of Things (IoT).
- **Specialized Coursework:** Microprocessors & Assembly, Data Mining, Compiler Design, Optimization.
- **Final Year Project:** Developed an evacuation planning optimization model using the NSGA-II algorithm in Python.
- **Teaching Experience:** Teaching Assistant – Data Structures Course

## Projects

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- **Evacuation Planning Optimization:**
  - Optimized model with NSGA-II in Python, tuning hyperparameters via genetic algorithms

### Java & Spring Boot Projects

- **buy-01 (E-commerce Microservices):**
  - Architected and developed a microservices-based e-commerce platform using **Java, Spring Boot**, and **MongoDB** on the backend and Angular for the frontend.
  - Implemented **Eureka** for service discovery, **Kafka** for asynchronous request handling, and an **API Gateway** to manage and route traffic

## JavaScript & Full-Stack Projects

- **social-network:**
  - Created a full-stack social network application (similar to Facebook) using **Vue.js** for a dynamic, reactive frontend and **Go** with **SQLite** for the backend.
- **real-time-forum:**
  - Upgraded my last Go-based forum project to feature real-time communication by integrating **WebSockets**, allowing for live updates without page reloads.
- **bomberman (Custom Framework):**
  - Built a real-time multiplayer Bomberman game using a custom-built JavaScript framework for state management, routing, and events.
  - Powered the backend with **Go** and **WebSockets** for live connectivity.
- **GraphQL:**
  - Built a JavaScript frontend application to query a GraphQL endpoint, constructing proper requests with query bodies to fetch dynamic data sets efficiently.
  - Integrated SVG for rendering custom charts, including line charts for time-series data and radar charts for comparative analysis, enabling interactive visualizations.

## ongoing learning

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- Deepening foundational knowledge in mathematics, calculus, and statistics to support data-driven programming and machine learning initiatives.
- studying quantitative finance concepts, including portfolio optimization, risk management, and algorithmic trading.
- Exploring neural networks and reinforcement learning, focusing on applications in predictive modeling and decision-making systems.

## Languages

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- **Persian:** Native
- **English:** advanced
- **Swedish:** beginner