

AMIR MOUSAVI (MENG, MBA, BSC)

Full Stack Developer — ReactJS — Node.js — IoT & Embedded Systems

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Professional Work Experience

Full Stack Software Developer

May 2024 – Present

Tersano Inc.

Windsor, ON, Canada

- Develop and maintain full-stack applications (React, TS, MUI) and backend services (Node.js, Express, MongoDB).
- Engineer and deploy embedded C++ firmware for 3 core IoT products (ESP-IDF, FreeRTOS), managing OTA, I2C peripherals, and memory.
- Developed a company-wide RAG chatbot (Python, Pinecone, OpenAI) to improve internal knowledge retrieval.
- Built a custom production-line flasher tool (Python, Tkinter) to streamline device provisioning for multiple ESP32 boards.
- Monitor and maintain cloud infrastructure and CI/CD pipelines on AWS (S3, Amplify).

Web Developer

June 2023 – May 2024

Crown Medical

Windsor, ON, Canada

- Led the complete website redevelopment, migrating from WordPress to a dynamic, high-performance React (Next.js) application.
- Engineered a new online booking system with API-based address auto-completion and a scalable MongoDB backend.
- Increased website performance and user engagement by implementing a modern stack with TailwindCSS.

Software Developer

June 2020 – August 2022

Rhein Houshmand Pars Co.

Tehran, Iran

- Spearheaded the development of a React Native mobile application for smart home device control.
- Programmed ESP32 microcontrollers (YAML) and established a secure HTTPS API for device communication.

IT Support Technician

July 2018 – June 2022

VFS Global

Tehran, Iran

- Oversaw IT operations for two Visa Application Centres, supporting 3 servers and 140+ clients while maintaining 99%+ system availability.
- Acted as the primary IT liaison for embassy officials, providing technical support and documentation.

Projects

SportSpot (sportspot.ca)

- Designed and developed a full-stack platform for booking sports facilities using Next.js and shadcn/ui.
- Engineered a high-performance backend API using Go (Golang) and Supabase (PostgreSQL) for managing bookings and user accounts.

ProVisa (provisa.ir)

- Built a responsive, server-rendered platform using Next.js to connect users with immigration services.
- Leveraged Supabase as a Backend-as-a-Service (BaaS) for user authentication and data storage.

Serverless Chatbot Backend (Deloitte Project)

- Designed a serverless Node.js and Express.js backend function, deployed on Google Cloud Platform (GCP).
- Integrated with Cohere and OpenAI APIs for a Google Dialogflow-based chatbot.

IoT Pool Monitoring System (PoolPal Inc. Project)

- Contributed to C++ firmware design for an IoT sensor system to collect, decode, and process sensor data locally.
- Established a cellular (IoT SIM) connection and implemented MQTT for data transmission to a central server.

Education

Master of Engineering - Electrical and Computer Engineering <i>University of Windsor</i>	Jan 2023 – Apr 2024 <i>Windsor, ON, Canada</i>
Master of Business Administration (Strategy) <i>University of Tehran</i>	Sep 2021 – Sep 2022 <i>Tehran, Iran</i>
Bachelor of Science – Computer (Software) Engineering <i>Azad University - North Tehran Branch</i>	Sep 2014 – June 2020 <i>Tehran, Iran</i>

Technical Skills

Languages	C++, Python, JavaScript (ES6+), TypeScript, Go (Golang), HTML5, CSS3
Frontend	React, Next.js, Zustand, Hooks, Material-UI (MUI), shadcn/ui, TailwindCSS
Backend	Node.js, Express.js, RESTful APIs, Serverless Functions, WebSockets
Databases	MongoDB, Supabase, PostgreSQL, PineconeDB, NoSQL Schema Design, Mongoose
IoT & Embedded	ESP32, ESP-IDF, FreeRTOS, C++, MQTT, OTA Updates, I2C, UART, RTOS Concepts
Tools & Platforms	Git, GitHub, AWS (Amplify, S3), GCP, Docker, Postman, Tkinter, CI/CD