Mohammad Yarahmadi

Full-Stack & Embedded Software Developer

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Portfolio: mhmdyarahmadi.github.io (live demos, ROV 3D dive, project details)

SUMMARY

Computer engineer with 1.5 years of hands-on experience across web development, system design, IoT, embedded firmware and Odoo ERP. Built the control and video-network stack of an underwater ROV driven to 30 m, and ESP32 control panels for an industrial drilling simulator.

EXPERIENCE

ERP Implementation Specialist & Web Developer · Zilber, Tehran — Feb 2026 – Present

- Deploy and configure Odoo ERP for business clients.
- Develop custom Odoo modules that integrate IoT devices with the ERP.
- Design and build company websites.
- Work on system design for client solutions, including how Odoo, custom modules and web apps fit together.
- Optimized dashboard systems, cutting latency from 2 s to 150 ms (over 13x faster).

Embedded Developer, Well-Drilling Simulator · National Iranian Drilling Company (project) — 2025 – Present

- Building a physical well-drilling simulator for training, where ESP32 boards act as the rig's real control panels.
- Write the firmware for each control panel, linking the panels to a Jetson Nano and the simulation software.

Embedded C Developer, ROV (underwater robot) · Robotics Team, Ahvaz — Feb 2025 – Oct 2025

- Designed the remote communication system (switch and router at robot level) and implemented it on ESP32 and Raspberry Pi 5; commands travel by UDP and live video by RTSP/ONVIF.
- Built the control software and a desktop GUI (Python, Qt) for real-time monitoring and camera streaming.
- Implemented PID control and automatic motion functions for six thrusters, plus automatic surfacing when the self-designed leak sensor detects water. Driven to 30 m with live video.

Sales Representative · Rayaa Development Team — 2024 – 2025

- Found customers, identified their needs and sold the websites built by the team.

Instructor & Teaching Assistant · Robotics house and college — [Dates]

- Taught Arduino and basic coding to children at a robotics house.
- Teaching assistant for a sales and negotiation course at college.

PROJECTS

On-Device Small LLM with a Knowledge Module · Engram (ongoing)

- Building a system where a small language model uses Engram as its knowledge module, so new knowledge can be added directly on a phone.
- Stack: MiniCPM5-2B (Q4_K_M) generator, EmbeddingGemma 2 embedder, optional Qwen3-Reranker-0.6B.

Gamified Programming School · Git, Docker, PostgreSQL, system design

- Quest-based platform with XP and levels, with simulated Docker and PostgreSQL engines running inside the app so students need to install nothing.

IoT Builds · ESP32, ESP32-CAM

- Backup-power camera that keeps recording on battery, with a cellular uplink; built its server backend.
- Sous vide controller with closed-loop PID temperature control.
- Smart AC remote that controls the air conditioner over the network.

EDUCATION

B.Sc., Computer Engineering · Shahid Chamran University of Ahvaz — 2021 – Present

SKILLS

Programming	TypeScript, Python, Go, Embedded C, C++, SQL (PostgreSQL)
Embedded & IoT	ESP32, Raspberry Pi, PID control, RTSP/ONVIF video
Web & ERP	Astro, TypeScript, Go, Odoo ERP/CRM, Three.js
Tools & Systems	System design, Linux, Git, Docker, Network+
Languages	Persian (native), English (advanced)