

RABIH MAALOUF, MBA

Fractional CTO | AI & Software Development Leader | Startup Architect

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EXECUTIVE SUMMARY

Technology leader with 22+ years of international experience spanning software architecture, AI-augmented development, digital product delivery, and technical team leadership. Proven track record as CTO, founder, and engineering manager across healthcare, education, aviation, IoT, and smart city verticals. Currently building AI-powered SaaS products and leading AI-augmented development workflows using LLMs, AI agents, and MCP architectures. Experienced in managing distributed teams and delivering complex projects across the Middle East, Europe, Asia, and the US. Seeking fractional CTO, engineering management, or AI consulting engagements.

CORE COMPETENCIES

AI & Automation: LLM Integration, Prompt Engineering, AI Agents, RAG, MCP Servers, LangChain, Auto-GPT

Leadership: CTO Strategy, Engineering Management, Team Building, Agile, Digital Transformation

Architecture: Microservices, Monorepos, CI/CD, Cloud-Native, System Design

Cloud & DevOps: Azure, AWS, GCP, Docker, GitHub Actions, Cypress

Full Stack: React, Next.js, Angular, Node.js, Python, Flutter, MongoDB, PostgreSQL

Innovation: IoT, Digital Twins, AR/VR, Blockchain, Solidity, Robotics

PROFESSIONAL EXPERIENCE

Software Development Manager

CardioDiagnostics Inc — USA (Remote)

Jul 2024 – Aug 2025

- Lead development and optimization of AI-powered cardiac telemetry solutions integrating real-time IoT data pipelines for patient monitoring.
- Developed and deployed LLM-based modules for intelligent clinical alerting and automated patient risk classification.
- Re-architected CI/CD pipelines and microservices infrastructure, achieving 50% reduction in Azure cloud costs.
- Led technical marketing, due diligence, and system documentation for multi-million dollar company acquisition.

Founder & CEO

Katana Technologies — Finland & Lebanon

2018 – Present

- Built AI-enhanced IoT Digital Twin platform with real-time 3D visualization for industrial, healthcare, and smart city applications.
- Implemented LLM-based AI agents and MCP server architecture for automated diagnostics, reporting, and predictive maintenance.
- Led full-stack development and hardware prototyping across multiple verticals: airports, hospitals, telecom, real estate, and agri-tech.
- Raised \$200K+ in pre-seed funding; secured strategic partnerships with Microsoft, Nokia, Finnish Government, and University of Helsinki.
- Managed distributed operations across Beirut, Helsinki, and Hong Kong.

Software Development Manager

ITXI s.a.l — Lebanon

2021 – 2023

- Modernized development practices with CI/CD pipelines, microservices architecture, and automated testing frameworks.
- Led architecture and team development for large-scale web, AR/VR, and 3D aviation platforms.

- Built real-time 3D digital twins for airports with live monitoring of aircraft, ground equipment, and indoor wayfinding.
- Introduced monorepo strategies improving developer velocity and cross-project code sharing.

Business Development Manager

CIS Group — Lebanon

2017

- Created and led a new healthcare solutions department; acquired and localized healthcare-focused products for the African market.
- Designed training programs for 25 branches across MENA and Africa.

Technology Consultant & Project Manager

Dar Al Handasah — Saudi Arabia

2011 – 2015

- Managed multi-million-dollar ICT projects for Princess Nora University and King Abdullah Bin AbdulAziz University Hospital.
- Liaised with Saudi government ministries; oversaw infrastructure including petabyte-scale data center design and deployment.
- Led successful handover, training, and adoption of 15+ major technology projects.

CTO & Board Member

Life Healthcare s.a.l — Lebanon

2010 – 2011

- Established ICT department and developed technology strategy for a hospital network.
- Provided board-level technology consultancy; designed and built a complete Hospital Information System (HIS).

Software Project Manager & Partner

Impact Medical Solutions s.a.l — Lebanon

2003 – 2008

- Led software development projects in medical informatics, clinical systems, and healthcare integration platforms.

TECHNICAL PROFICIENCY

AI/LLMs: GPT-4 API, Claude, DeepSeek, LLaMA, Prompt Engineering, AI Agent Design, LangChain, RAG, Auto-GPT, MCP Server Architecture

AI-Augmented Development: Cursor.ai, Lovable, V0 — prototyping process that scaffolds 70% of application code, reducing development costs by 50%

Full Stack: React, Next.js, Angular, Vue, Node.js, Flutter, Python, PHP, C++, Solidity

DevOps & Cloud: Azure, AWS, GCP, Docker, CI/CD Pipelines, GitHub Actions, Bitbucket, Cypress

Data & Infrastructure: MongoDB, MariaDB, MySQL, PostgreSQL, Power BI, Elasticsearch

Specialized: IoT (Arduino, Raspberry Pi, Industrial Sensors), Digital Twins, AR/VR, Blockchain, 3D Modeling, Robotics, UI/UX (Figma, Adobe CC)

EDUCATION

MBA — Paris Dauphine University, Paris, France (2010)

BSc in Multimedia — KAU University, Beirut, Lebanon (2003)

CURRENT PROJECTS & VENTURES

- **Katana IoTwins:** AI-enabled 3D digital twins for smart environments and industrial monitoring
- **Skycommand:** Drone mission planning SaaS application (Next.js, real-time mapping)
- **VM-Care:** blockchain-based, AI-driven preventive healthcare management platform.
- **Lebanon 3.0:** Book and digital governance platform exploring post-capitalist governance models in the age of AI

LANGUAGES

Arabic (Native) | English (Fluent) | French (Fluent)