

# Manuel Rodríguez Camacho

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## Professional Summary

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Software Development Engineer and Technical Leader with experience in full-stack development, microservices architecture, cloud-ready applications, cross-functional team collaboration, and Spec-Driven delivery. Skilled in designing scalable systems, implementing best development practices, and guiding engineering teams toward efficient and timely delivery.

## Technical Skills

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**Languages:** C#, C, JS, CSS, PHP, Python, VHDL

**Architectures:** MVC, MVVM, Microservices, Legacy Layered application

**Databases:** SQL Server, Azure SQL, MySQL

**Practices:** Spec-Driven Development, AI-Assisted Development, CI/CD, Microservices, Layered Architecture, JWT Authentication, Agile/Scrum

**Frameworks:** .NET Core, MAUI, Razor Pages

**Tools:** Git, Copilot, Azure DevOps, Docker, Ansible, KVM, WSL2, VPN, SCRUM

**Cloud:** Azure (App Services, SQL, Pipelines), AWS

## Professional Experience

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### Independent Contractor

2025 to Present

- Deliver software engineering and infrastructure services for custom business systems, internal platforms, and technical enablement initiatives.
- Developed recent independent projects including RetailBase, RetailBase.Identity, poc-vite-crud, hard.core.web, HookHubNet, ScepServer, and ari64.
- Managed VPS, VPN, mail server, collaboration, and CI/CD tool configuration, deployment automation, hardening, and operational support.
- Use a GitHub Copilot-assisted Spec-Driven pipeline spanning requirement discovery, analysis, spec design, refinement, building, testing, deployment, monitoring, and maintenance.

### Software Developer / Technical Leader

Cryoinfra — 2019 to 2025

- Led multidisciplinary SCRUM-based teams, ensuring timely delivery of high-impact software solutions.
- Designed, implemented, and maintained a microservices-based architecture secured with JWT authentication.
- Integrated AI tools into daily engineering work to accelerate bug fixing, refactoring, test generation, technical documentation, and implementation analysis, while keeping human validation and engineering quality gates in place.
- I started exploring *vibe coding* patterns in recent projects to iterate quickly, but the more reliable approach I found was a Spec-Driven workflow: defining requirements, contracts, acceptance criteria, and implementation tasks first. That approach is reflected especially in ScepServer, HookHubNet, hard.core.web, and poc-vite-crud.
- Developed scalable web and mobile applications using Razor Pages, .NET Core, and .NET MAUI.
- Integrated and orchestrated multiple internal and external APIs for data synchronization across systems.
- Defined technical documentation standards, including architecture diagrams, workflows, and coding guidelines.
- Mentored junior developers, conducted code reviews, and promoted best practices in software development.
- Provided user support and technical training for internal tools and enterprise applications.

## Laboratory Academic Universidad Autónoma Metropolitana - Azcapotzalco — 2014 to 2017

- Developed and maintained departmental web site and applications using PHP, JavaScript, and MySQL.
- Administered Linux and Windows servers, as well as departmental network infrastructure.
- Maintained and supported Systems Department classrooms and laboratories.
- Contributed to teaching and research activities by assisting faculty and supporting academic projects.

## Junior Software Developer Cryoinfra — 2012 to 2014

- Developed monolithic web and desktop applications using .NET Framework and SQL Server.
- Collaborated closely with QA and product teams to ensure high-quality deliverables.
- Diagnosed and resolved complex issues in third-party components (e.g., Telerik).
- Optimized database queries, improving application performance and reliability.
- Provided help desk and technical support for internal users.

## Education

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- **Master of Computer Science** — Centro de Investigación y Estudios Avanzados (CINVESTAV) 2016 to 2018
- **Computer Engineering** — Universidad Autónoma Metropolitana Azcapotzalco (UAM-A) 2009 to 2014
- **Computer Technician** — Centro de Estudios Computacionales del Valle de México (CECOVAM) 2006 to 2008

## Selected Projects

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- **ari64** — C big integer library focused mainly on cryptographic implementations and arbitrary-precision arithmetic.
- **RetailBase.Identity** — Authentication and user management module with secure registration, recovery, and JWT-based enterprise auth flows.
- **RetailBase** — Modular enterprise foundation with reusable backend building blocks and layered architecture.
- **diagrams** — Lightweight HTML-based project for publishing technical and architectural diagrams.
- **HookHubNet** — Secure TCP tunneling over WebSockets with centralized hub and dynamic port forwarding.
- **Cryoinfra Platforms** — Web and mobile systems (.NET Core, .NET MAUI) for logistics, production monitoring, and internal operations.
- **Cryoinfra Architecture** — Defined layered architecture, service contracts, and development standards.
- **Help Desk System** — Internal ticketing platform with AI-assisted support (Watson AI).
- **Hard.Core** — Modular enterprise framework accelerating application development.
- **Private CI/CD** — Self-hosted pipelines using Jenkins, Docker, and Ansible.
- **HookHub** — Real-time messaging hub using ASP.NET Core and SignalR.
- **Midori64 / Midori128** — Lightweight cryptographic block cipher implementations.

## Certifications and Licenses

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- **Agile & DevOps:** Scrum Master (SMPC®), Scrum Foundation (SFPC™), DevOps Essentials (DEPC®) — CertiProf; Agile PM — Atlassian; Design Thinking, Agile Explorer — IBM.
- **Cloud & Infrastructure:** AWS Cloud Practitioner — AWS; Docker Foundations — Docker; Ubuntu Linux — Canonical; DevSecOps Foundations (2022).
- **Software & Architecture:** Microservices Foundations — Kong; Web Development — IBM; GitHub & Copilot Career Essentials.
- **Security & Testing:** Azure AI Essentials, Security Essentials — Microsoft; Applied Cryptography — Infosec; Software Testing & Test Automation — LambdaTest.
- **Academic Training:** Application Servers — UAM; Scrum Master Diploma — Praxis; Scrum Fundamentals — KZI-Kaizenia; Lifelong Learning — CertiProf.

## Academic Activities, Conferences & Honors

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### International Conferences

- **LatinCrypt 2017** — Fifth International Conference on Cryptology and Information Security in Latin America. University of Havana, Cuba (Sept. 2017). Certificate of Participation.

### Research Presentations

- “*Analysis of an Embedded Web Interface on an Arduino Platform and a Custom-Built Device.*” 3rd Research Conference of the Systems Department, Universidad Autónoma Metropolitana (July 2014).

### Programming Competitions & Honors

- **ACM-ICPC Mexico & Central America Regional Contest** — Honorable Mention ITESM (2013).
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- **IV Annual Programming Contest “Dennis M. Ritchie”** — Second Place IPN-ESCOM (2012).

### ACM Competitive Programming Training

- ACM Student Chapter — ITESM Mexico City (2011)
- ACM Student Chapter — BUAP Puebla (2012)
- ACM Student Chapter — ESCOM-IPN Mexico City (2013)