

Mario R. Ayala

Senior Software Engineer with 20+ years of experience, including military service, specializing in full-stack web development with .NET Core. Recent focus on Next.js, TypeScript, and Solidity smart contracts, while expanding expertise in React for component-based architecture. Proven track record of delivering enterprise-scale applications across industries.

EXPERIENCE

Independent Technology Consultant, Mayagüez, Puerto Rico — Self-Employed

SEPT 2021 - Present

- **Gespervis ASL School** (August – September 2025): Architected and delivered a comprehensive online ASL learning platform using *Next.js 15*, *TypeScript*, and *PostgreSQL*. Achieved 70% development time reduction through strategic database integration and modern development practices. Built role-based authentication system, course management workflows, and real-time analytics serving 13+ active users. Reduced project costs by 65% while accelerating delivery timeline by 7-8 weeks.
- **Café Papamín LLC** (2024–Present): Developed full-stack e-commerce application using *Next.js 15*, *TypeScript*, and *Tailwind CSS*, delivering comprehensive shopping cart functionality, WhatsApp Business integration, and responsive product catalog. Achieved \$620 total project cost vs. \$3,000+ traditional platforms, enabling 24/7 customer engagement and streamlined ordering workflow for Puerto Rican artisanal coffee business.
- **Pabellón de la Fama del Deporte Humacaeño** (July 2025 – Present): Architected comprehensive web platform for Puerto Rico's Humacao Sports Hall of Fame using *Next.js 15*, *TypeScript*, and *Tailwind CSS*. Led full-stack development implementing SOLID principles and functional programming, managing requirements gathering through deployment. Delivered MVP with 8 core sections including searchable inductee directory, museum showcase, and activity calendar. Provided pro bono leadership as committed organization member, enabling digital transformation for sports heritage preservation.
- **JAYEI Cultural Organization** (2024–Present): Developed comprehensive bilingual website for Puerto Rican cultural organization connecting international poets and artists. Built with *Next.js 15* and *TypeScript*, featuring interactive photo gallery, progressive loading, and mobile-responsive design. Implemented comprehensive *SEO optimization* and accessibility features for improved community reach while maintaining focus on performance and user experience.
- **Blockchain Development** (2021-2023): Developed and deployed blockchain applications including NFT marketplace prototype using *Solidity* and *React*. Conducted technology workshops educating professionals and students on blockchain fundamentals and smart contract development.

Mayagüez, PR
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FRONT-END

Next.js/React
TS/JavaScript
Tailwind CSS
Blazor

BACKEND

.NET Core/C#
Node.js
MVC/REST

BLOCKCHAIN

Solidity
ERC Standards
Polygon

DATABASES

MS SQL Server
PostgreSQL

CLOUD & DEVOPS

Azure Devops
Github
Vercel

LANGUAGES

Spanish (Native)
English
(Professional)
ASL/LSPR
(Conversational)

MPA Consultants | Las Marías & Santurce, Puerto Rico — *Digital Transformation Program Designer / Leadership Instructor*

MARCH 2025 - May 2025

- **Las Marías Program** (May – July 2025): Developed a 150-hour intensive program transforming displaced adults into digital professionals. Pedagogical innovation used the OSI network model as educational framework, integrating AI, blockchain, and Microsoft tools. Results: executive CV, business plan, and entrepreneurial digital presence for each student, fostering local economic development and community multiplier effect.
- **Santurce Leadership Program** (March – May 2025): Designed and taught 70-hour intensive course on professional behavior and interviewing skills, enriching original curriculum with AI modules for job search. Created comprehensive course material including presentations, assessments, and practical exercises that promoted active discussion and student participation. Implemented methodology based on progressive knowledge sequencing, achieving 90%+ course completion rate.

Yukayeke Playa, Añasco, PR— *Digital Transformation Director*

MARCH 2024 - DECEMBER 2024

- Led comprehensive digital modernization initiatives, architecting and implementing a multilingual (ES/EN) web platform using *Next.js 14*, *TypeScript*, and *Tailwind CSS*, resulting in enhanced user experience and improved online presence.
- Spearheaded migration from legacy platform (Squarespace) to modern tech stack hosted on Vercel, implementing internationalization and responsive design principles.

WOTEC, Las Marías, PR — *Educational Technology Specialist*

APRIL 2024 - JUL 2024

- Designed and implemented a 400-hour technical literacy program transforming novices into digitally competent professionals.
- Developed a comprehensive curriculum integrating AI tools, productivity software, and collaboration platforms achieving 85% completion rate.
- Created custom learning modules for practical technology applications, including data analysis and automated workflows..
- Mentored diverse learners in essential digital competencies including cloud collaboration and web technologies.

Disney Parks, Experiences and Products, Orlando, FL— *Principal Software Engineer / Data Engineering Specialist*

NOVEMBER 2015 - SEPTEMBER 2021

- **Enterprise Architecture Leadership:** Led enterprise-wide technical initiatives as principal software architect and data engineering specialist, serving as sole software engineer for critical business intelligence projects across Disney's global operations.
- **Business Intelligence Portal:** Architected and delivered enterprise-scale portal unifying *SharePoint*, *Tableau*, and *MS SQL* data sources, implementing *MVC/REST* architecture with role-based access and NTLM authentication for executives worldwide.
- **Mobile Innovation:** Pioneered cross-platform mobile application with *Xamarin*

utilizing geolocation and barcode scanning technologies, integrating with **Tableau** dashboards for real-time store analytics and product information retrieval.

- **Project Management Solutions:** Designed and implemented comprehensive project portfolio management solution featuring custom **Gantt** visualizations for financial quarter comparison and gap analysis.

AVM L.P., Boca Raton, FL— Senior .NET Developer

APRIL 2011 - JUNE 2012

- **Financial Systems Architecture:** Architected and implemented mission-critical financial reporting systems for derivatives trading, achieving 100% accuracy in **OTC** transaction validation through robust real-time data verification.
- **Compliance & Security:** Designed and developed secure data export frameworks for **OTC** and **non-OTC** derivative products, ensuring compliance with industry standards while maintaining data integrity.
- **System Re-architecture:** Led re-architecture of middle-tier systems in **ASP.NET** and **C#** for swap-related financial instruments, implementing test-driven development practices with the **Moq** framework that significantly enhanced platform reliability.

ABB Concise, Coral Springs, FL— Senior Software Developer

JUNE 2007 - FEBRUARY 2011

- **E-commerce Development:** Developed and maintained **ASP.NET** e-commerce applications for eye care using **C#**, **SQL Server**, **Progress DB**, and **Visual Studio 2010**.
- **Integration Solutions:** Implemented **WCF Services**, **AJAX** controls with **jQuery** and JavaScript for seamless database and client-side communication.
- **Feature Enhancement:** Created new e-commerce features including tiered pricing, coupons, shipping rebates, and auto-reordering systems.

Office Depot, Delray Beach, FL— Senior Technical Lead / Developer III

NOVEMBER 1998 - JANUARY 2005

Enterprise Systems Architecture:

- **Merchandise Financial Planning:** Led architecture and implementation of **Oracle Retail MFP** platform, integrating predictive analytics with enterprise financial systems. Engineered automated data integration framework connecting disparate enterprise databases (**SQL Server**, **Oracle**, **DB2**, **Teradata**).
- **Real-time Monitoring:** Developed comprehensive **UNIX** process monitoring system utilizing early **AJAX** implementation for real-time system status.

Customer Experience Solutions:

- **Computer Telephony Integration:** Architected **ASP**-based integration between **Rockwell** telephony systems and intranet applications. Implemented **Genesys** libraries in **Visual Basic 6.0** for CTI functionality.
- **Document Management:** Developed **XML/XSLT** document management system for enterprise communications.

E-commerce & Order Management:

- **B2B Platform Development:** Led full lifecycle development of **XML**-based order entry intranet application with **COM+ / ActiveX** shopping cart and **JavaScript** frontend.

- **International E-commerce:** Served as Technical Consultant for Viking Direct UK e-commerce implementation, engineering integration between frontend ASP applications and AS/400 business rules through distributed Visual Basic 6.0 middleware.

United States Navy, East Coast, US— *Information Systems Specialist (RM2/E5)*

NOVEMBER 1987 - MARCH 1993

- **Process Automation:** Developed *DBase IV* program to automate equipment failure tracking and resolution, improving efficiency and saving time and resources.
- **Systems Management:** Program tracked failures, parts orders, repair reports, and generated automated reporting across fleet operations.
- **Security Leadership:** Served during *Operation Desert Shield/Desert Storm*, responsible for standalone computer security through installation and configuration of security software and policy development.

EDUCATION

Florida International University, Miami, FL — *Courses in Computer Science*

1994 - 1998

Dean List

New York Institute of Technology, Online — *Bachelor in Computer Science*

2006 - 2007

Cum Laude

Ellis University, Online — *Master in Computer Science*

2009 - 2010

Magna Cum Laude