

Dennis Omar Arroyo Rivera

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EXPERIENCE

Puerto Rico Department of Health

Jan 2026 – Present

Senior Software Engineer (Contract)

- Lead day-to-day development across Bioresults (ELR/HL7) and BioPortal (surveillance/case management) by analyzing client-submitted HL7 v2.5.1 feeds, troubleshooting parsing/mapping issues, and coordinating directly with laboratories across Puerto Rico to resolve non-compliant messages and stabilize lab-result ingestion and routing.
- Build and maintain BioPortal background workers and data migration utilities to move records from legacy modules to new investigation workflows, implementing safe migration logic, validations, and operational checks to support continuity of epidemiological operations while the platform evolves.
- Drive sprint execution and engineering quality by partnering with senior leadership on planning and sprint objectives, mentoring mid-level engineers, and performing code reviews; use .NET Aspire to run distributed services locally and leverage AI-assisted tooling to accelerate planning, issue breakdown, and implementation.

Snac PR

Nov 2025 – Present

Senior Software Engineer (Contract)

- Developed and deployed a secure access-management system using .NET 10 and Entity Framework Core, integrated into an existing government microservices ecosystem.
- Implemented JWT-based authentication and role-based authorization, ensuring interoperability with centralized identity services across multiple systems.
- Built and maintained the frontend using Angular 21, delivering a responsive, role-driven user experience aligned with government UI standards.
- Leading development of the RCI access request and identity provisioning module for the Puerto Rico Department of Justice, including workflow automation, audit logging, and secure Active Directory user creation.

Akcelita

Jul 2025 – Dec 2025

Full Stack Engineer

- Addressed key security vulnerabilities and system inefficiencies in the internal platform, including unencrypted application secrets, non-scalable admin workflows, and complex database deployments.
- Designed and implemented an AES-256-based Encryption Service in .NET Core using Bouncy Castle, AWS KMS, and Azure Key Vault; refactored 15+ API endpoints for encrypted data handling; and developed an admin-specific Workpages feature using React.js, RESTful APIs, and role-based access control.
- Strengthened system security and delivered a responsive admin UI that improved workflow efficiency.

Puerto Rico Department of Health

Mar 2024 – Jun 2025

Full Stack Engineer

- Designed and maintained secure surveillance platforms using Angular 19, .NET 9, and Azure.
- Contributed to datos.salud.pr.gov (BioData), a public platform that provides access to data on infectious diseases, health systems, and public health in Puerto Rico.
- Actively involved in the maintenance and development of new components for the [BioPortal](#), a secured platform for health professionals to report mandatory notifiable diseases and health conditions, facilitating epidemiological surveillance and data collection.

INVID

Jan 2023 – Mar 2024

Back-End Engineer II

- Worked across the full stack on scalable data processing systems spanning car insurance, judiciary, and healthcare sectors, using C#, ASP.NET MVC, Razor Pages, and Entity Framework on the backend with Razor and JavaScript on the frontend.
- Developed a Hangfire and Stripe powered automated renewal/payment system for a major insurance provider, including both the backend processing pipeline and the user-facing flows.
- Automated the daily generation of protection orders for the judicial branch using SSIS and SQL Server, eliminating the need for weekend office visits and improving work-life balance for judicial staff.

INVID

May 2021 – Dec 2022

Software Engineer II

- Enhanced and scaled SIGNO and RUA, platforms for managing notarial and attorney records, using ASP.NET MVC and Razor Pages to streamline legal processes.
- Developed new features and optimized workflows for SUMAC, the judiciary's case management system, utilizing CSLA.NET and Web Forms to improve efficiency.

Wovenware

Jun 2018 – Apr 2019

Software Engineer I

- Developed and maintained COPS, a sales tool for Claro PR, integrating SOAP services for telecom offerings.
- Built Java-based web applications (JSP, RichFaces) ensuring stability for high-traffic customer portals.

Puerto Rico Innovation and Technology Service

Mar 2018 – May 2018

Mobile Developer (Internship)

- Contributed to accessibility improvements on Cesco Digital, the Puerto Rico government's consumer-facing mobile app, including code changes that enabled blind users to navigate the app with assistive technology.
- Worked with React Native and Node.js, collaborating with senior leadership to improve screen layouts, translation, and overall user experience.

EDUCATION

Polytechnic University of Puerto Rico

Sep 2025 – May 2026

Master of Engineering, Computer Engineering (Software Engineering Concentration)

Polytechnic University of Puerto Rico

2019 – 2021

PhD Coursework, Computer Engineering

- Completed 34 graduate credits as a recipient of the GAANN Fellowship (U.S. Department of Education).
- Research focused on CIA (Confidentiality, Integrity, Availability) security models for internet-connected FDA Class I medical devices in manufacturing environments.

University of Puerto Rico at Bayamón

May 2019

Bachelor of Science, Computer Science

- Research Experience for Undergraduates (REU) at Columbus State University, summer 2017 — built a remote proctored-exam prototype using Raspberry Pi, webcam, and networking hardware.

SKILLS

Languages & Frameworks: C#, JavaScript, TypeScript, Angular (16–21), React, React Native, .NET Core, .NET 10, .NET Aspire, Entity Framework, ASP.NET MVC, Node.js

Data & Integration: SQL Server, PostgreSQL, REST APIs, SOAP, HL7 v2.5.1, SSIS

Security: AES-256, Bouncy Castle, AWS KMS, Azure Key Vault, JWT, Active Directory (LDAP/LDAPS), role-based access control

Cloud & DevOps: Azure, AWS, Git, GitHub, Agile Software Development Methodology

Languages: Spanish (native), English (advanced)