Juan Muñoz

Senior Software Engineer | .NET, Python, C/C++ & Distributed Systems
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PROFESSIONAL SUMMARY

Senior Software Engineer with 20+ years building and modernizing backend systems in regulated industries. Pairs deep .NET expertise (C#, ASP.NET Core, Entity Framework) with systems-level C engineering on Medicaid claims and eligibility & enrollment platforms. Led a 5-engineer team from folder-based code backups to Git and Azure DevOps, bringing version control and change tracking to every change, and designed a secure Azure portal that gave a customer access to production test records without exposing the internal network. Uses AI coding agents (Claude Code, Codex) daily across the development lifecycle, validating their output with tests and code review.

TECHNICAL EXPERTISE

- .NET Ecosystem: C#, ASP.NET Core / MVC, Blazor, Razor, Entity Framework (Core), LINQ, RESTful API Design, OpenAPI/Swagger
- Frontend: Angular, TypeScript, JavaScript
- Systems & Languages: C/C++, Python (data analysis, automation, scripting), SQL (Oracle, T-SQL, PostgreSQL), Oracle Pro*C, PHP, Bash
- Reporting & BI: SQL Server Reporting Services (SSRS) — report design, development and deployment; SQL Server stored procedures, views and functions; custom ASP.NET MVC dashboards; Power BI (working knowledge)
- Architecture & System Design: Distributed Systems, Event-Driven Architecture, Batch Engine Optimization, Scalability & Performance Tuning
- Cloud, DevOps & Delivery: Docker (working knowledge), Azure DevOps, CI/CD Pipelines, Git
- Testing & Quality: xUnit, NUnit, MSTest, Postman, Automated Testing
- AI-Assisted Development: Claude Code, Claude, OpenAI Codex, Microsoft Copilot; AI-assisted implementation, refactoring, unittest generation, code review, debugging, SQL query optimization and documentation; custom instructions and spec-first prompting, with all output validated through tests and review
- Leadership: Team Leadership (5 engineers), Agile/Scrum Transformation, Mentorship, Code Review & Engineering Standards

PROFESSIONAL EXPERIENCE

Senior Software Engineer | Gainwell Technologies
07/2024 – 09/2026 | El Paso, TX

- Medicaid Batch Processing: Diagnosed and resolved production defects and tuned performance in Unix C and Oracle Pro*C batch processing engines supporting multi-state Medicaid claims and Eligibility & Enrollment (E&E) subsystems.
- Core Engine & Business Rules: Designed and implemented automated business-rules enforcement and data operations within the core claims processing engine supporting multiple state Medicaid programs.
- Quality Engineering & Defect Prevention: Performed extensive unit and integration testing in partnership with cross-functional engineering leads, catching and remediating critical edge-case defects before production rollout.

Lead Software Engineer | Firstronic-Lacroix
01/2020 – 02/2024 | Juárez, MX

- Engineering Leadership & DevOps Transformation: Inherited a codebase with no version control (folder-based backups such as "Prod_Version_1.x") and ad hoc deployments; led and mentored a team of 5 engineers through migration to Git and a tailored Agile/Scrum process on Azure DevOps with automated test gates.
- Real-Time Supply Chain Monitoring: Re-architected the supply chain monitoring platform (C#, ASP.NET, Entity Framework, SQL) from batch reporting to real-time automated alerts, compressing delivery-risk visibility from days to minutes.
- Secure Cross-Domain Cloud Portal: Designed and deployed a secure cloud portal on Azure App Service giving a key customer visibility into production test records without access to the internal company network — resolving a direct conflict between a customer requirement and company security policy.
- Process Automation: Engineered Python and C# internal tooling that cut manual supply chain data processing ~85% (about 4 hours to 15 minutes), using Python for data ingestion, transformation, and analysis, validating output against production datasets before rollout.

- Shop-Floor Digital Work Instructions: Built a Python application for Raspberry Pi displays deployed across ~70–80 stations on 10 production lines: supervisors assigned each station, and the device pulled its current work instructions from a central file server and displayed them on-screen, resolving operator errors caused by outdated or incorrect guides.

Software Developer Engineer II | HP / HPE / DXC Technology
01/2014 – 04/2019 | El Paso, TX

- Medicaid Claims Batch Systems: Collaborated on maintenance, defect root-cause analysis and fixes, and performance optimization of Unix C and Oracle Pro*C batch routines for multi-state Medicaid claims (Florida and Colorado).
- Modular Architecture & Web Portals: Refactored MVC-based claims modules to modern design patterns, improving maintainability and reducing subsystem overhead.

Earlier Experience

- Bosch Automotive Systems: Warranty Analysis Engineer — Root-cause failure analysis (Fishbone, 5-Whys) on returned automotive ECUs; reproduced faults in the lab and drove corrective action.
- Epic Technologies / Transervicios: Software Developer — Built in-house production control and warehouse ERP systems (VB.NET, SQL Server).
- Delphi Automotive Systems: Systems/Product Engineer — Built automated ECU test environments in LabWindows/CVI with NI hardware; co-developed an automated ECU simulator demonstrated at GM HQ, Detroit.
- DataXport.Net: Systems Technician — Developed client-server database tools in VB and SQL Server.

EDUCATION & CREDENTIALS

B.S. Electrical and Computer Engineering — Embedded Systems
Universidad Autónoma de Ciudad Juárez | Juárez, Mexico

Graduate Studies, Applied Computing — Cloud Computing (coursework completed)
Universidad Autónoma de Ciudad Juárez | 2016–2020 | Thesis research: Smart Contracts for Supply Chain Management — Mexico's IMMEX Case Study

CERTIFICATIONS & RESEARCH

- Google Data Analytics Professional Certificate (Python, SQL, data wrangling, visualization)
- Web Applications Specialist — University of Michigan on Coursera (2020)
- Python Basics — University of Michigan on Coursera (2020)
- Publication: "Heuristic Mechanism for Drone Swarm Auto-organization" — Research in Computing Science, Vol. 147(2), pp. 119–127, 2018.

LANGUAGES

English: Advanced | Spanish: Native | French: Basic