

# Ivan Ball-llovera

## SENIOR SOFTWARE ARCHITECT

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### PROFESSIONAL SUMMARY

Senior Software Architect with 25+ years designing and delivering scalable, cloud-native systems on the Microsoft stack. Deep expertise in Domain-Driven Design, Clean Architecture, CQRS, and microservices, paired with hands-on Azure cloud architecture and DevOps (Bicep, Docker, Kubernetes, CI/CD). Proven record of leading architectural refactors, modernizing legacy platforms, and mentoring cross-functional teams to raise engineering standards. Currently architecting production-grade .NET 10 platforms spanning modular-monolith-to-microservices, event-driven messaging, and AI/RAG integration, while leveraging AI-assisted development workflows to ship faster without sacrificing quality.

### CORE COMPETENCIES

**Architecture & Design** Domain-Driven Design, Clean Architecture, CQRS, Modular Monolith → Microservices, Event-Driven Architecture, Outbox Pattern, gRPC, API Gateway (YARP), Design Patterns

**Cloud & DevOps** Azure (Container Apps, Service Bus, Cosmos DB, SQL, App Insights, Log Analytics), Infrastructure as Code (Bicep, ARM), Docker, Kubernetes, Service Fabric, CI/CD (GitHub Actions, Azure DevOps), OIDC / Managed Identity

**Languages & Frameworks** .NET (Core through 10) / C#, Blazor, .NET MAUI, ASP.NET Core Web API, .NET Aspire, EF Core, Angular, TypeScript, Python

**Data & BI** SQL Server, Cosmos DB, MySQL, Oracle, Data Engineering, Data Warehousing, SSIS, SSAS (Tabular), SSRS, Power BI

**Quality & Security** xUnit, NUnit, Moq, Playwright, Selenium, TDD, static analysis & application security (SAST/DAST, Snyk, Fortify, Wiz)

**Leadership & Practices** Technical leadership, mentorship, Agile / Scrum / Kanban, architecture governance (ADRs), cross-team collaboration, AI-assisted development (Claude Code, GitHub Copilot)

### FEATURED PROJECT · MMCA PLATFORM

*Personal / Open Source · [github.com/ivanball/MMCA.Common](https://github.com/ivanball/MMCA.Common)*

A production-grade .NET 10 reference platform demonstrating modern enterprise architecture end-to-end. The conference application was deployed to Azure and powered the live 2026 Atlanta Cloud + AI Conference, and will also power the 2026 Atlanta Developers Conference.

- Designed a modular monolith that extracts cleanly into independent microservices: modules implement a discovery contract, load in topological order, and run behind a YARP gateway with gRPC contracts and typed clients, keeping transport reversible at the edge.
- Authored a 13-package shared framework (DDD, Clean Architecture, CQRS) published to GitHub Packages and consumed by an e-commerce app (Stripe) and a conference app.
- Implemented database-per-service with an at-least-once outbox plus dual dispatch, soft-delete, automatic audit stamping, and GDPR/CCPA anonymization; documented decisions with 28 ADRs and a 34-category architecture-review rubric.
- Deployed to Azure using Bicep IaC, Service Bus, Container Apps, App Insights, and Log Analytics, with OIDC / Managed Identity authentication; orchestrated locally with .NET Aspire.
- Built Blazor (MudBlazor) and .NET MAUI clients; enforced quality with xUnit v3, Playwright E2E, 71 architecture-fitness tests, and automated accessibility testing (axe, WCAG 2.1 AA: zero violations).

## PROFESSIONAL EXPERIENCE

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### Senior Software Engineer • Assurant

June 2025 – Present

*Architect-level scope: platform, security, and cross-team technical decisions*

- Re-architected the AR.com renters quote and issue flow for multi-product quoting (Renters Insurance plus General Liability) against Guidewire, delivering Orchestration and Sales API changes, Angular UI updates, reusable producer-code propagation, and a new guidewireData integration contract that enabled the modern Guidewire system-of-record path end to end.
- Delivered Okta-based multi-factor authentication (SMS and voice, magic-link, and sign-in widget) across all FlexDeposit flows (payment, search-bond, tenant-portal, and extension), with OTP retry, resend throttling, and account logout.
- Led the Angular 18 to 21 major-version upgrade and hardened application security: remediated 9 high-severity and 12 medium and low Wiz vulnerabilities, ran Snyk scans across the UI and Places API, and completed a full Fortify-to-Snyk SAST migration.
- Led the migration of the AR.com repositories from Azure DevOps to GitHub Enterprise with full history preserved, re-pointing CI/CD pipelines, branch protection, and team permissions, which unlocked GitHub Copilot PR review.
- Designed and shipped branch-level coverage sync (Azure Data Factory, API, and SQL) that resolved a production data-integrity incident in which Model-to-Prod syncs were silently overwriting production coverage changes.
- Architected AI delivery tooling in two company hackathons: a Clean Architecture and machine-learning solution for automated insurance-claim fraud detection, and "A.I.M." (AI Initiative & Modernization), an AI assistant embedded in Azure DevOps that spans the full delivery lifecycle (plan, build, test, ship, operate) with a multi-provider, human-in-the-loop design; adopted GitHub Copilot and Claude Code to raise code quality and developer efficiency.

### Principal Software Engineer • Hitachi Solutions America

May 2021 – May 2025

- Led the architectural refactor of biBERK's cloud-native insurance platform (C#, Angular, Azure SQL, Cosmos DB), modernizing the system and establishing scalable patterns adopted across the organization.
- Served as the go-to architect for complex design challenges across biBERK, Empower, Analog Devices, and Cost Management engagements; coached engineers on methods, tooling, and best practices.
- Authored cross-cutting design specifications (e.g., the Empower Connections page layout engine spanning UI, API, and database) and built CI/CD pipelines using Infrastructure as Code (ARM templates).
- Developed a document-ingestion module in Python for a Retrieval-Augmented Generation (RAG) architecture powering internal AI initiatives.

### Software Engineer IV • Ultimate Software

December 2015 – May 2021

- Architected a PostUpgrade automated testing engine (.NET Core, Angular, Selenium) and defined the architecture for the CAT application suite, heading off ~32 customer escalations and saving an estimated 80 hours of support time.
- Led the migration of 11 production database shards from MariaDB (Pivotal Cloud Foundry) to MySQL on Kubernetes, adding Slack-integrated yellow/red monitoring and alerting.
- Re-engineered WFM ETL processing (SSIS) across all data centers, cutting execution time from 2+ hours to under an hour; established engineering best practices within Agile/Scrum.

### Software Architect & Lead Developer • Miami-Dade County

August 2009 – December 2015

Property Appraiser's Office

- Built a reusable .NET application framework enabling a team to deliver line-of-business applications (ASP.NET Web Forms N-Tier, then ASP.NET MVC with Visual Studio 2013, HTML5/CSS3/JavaScript/Bootstrap, and Entity Framework 6).
- Architected the SQL Server backend for the County's most-trafficked web app (Property Search, 250,000+ hits/day), using advanced partitioning across multi-cluster, load-balanced servers for parallel query optimization.
- Implemented an enterprise Data Warehouse loading SQL Server from multiple Oracle sources (re-architected from a multithreaded C# loader to SSIS), surfacing analytics through an SSAS Tabular model and SSRS reports; administered 20+ in-house SQL Server databases.

COMMUNITY LEADERSHIP

Serving as one of the lead organizers for two community-driven Atlanta technology conferences:

- **Atlanta Cloud + AI Conference**
- **Atlanta Developers Conference**

Collaborated with the team to coordinate speakers, sponsors, volunteers, event logistics, marketing, and attendee experience, helping deliver a successful conference focused on cloud computing, artificial intelligence, and software engineering. The 2026 Atlanta Cloud + AI Conference ran on the MMCA conference application, which will also power the 2026 Atlanta Developers Conference (see Featured Project).

EDUCATION

**B.S., Computer Science**

University of Havana (Faculty of Mathematics)  
Havana, Cuba · 1994 – 1999

LANGUAGES

English · Spanish (bilingual)

CERTIFICATIONS

- **Microsoft Certified:** Azure Administrator Associate (AZ-104, 2025); Azure AI Fundamentals (AI-900, 2024); Azure Data Fundamentals (DP-900, 2021); Azure Fundamentals (AZ-900, 2021)
- **In progress (2026):** Azure Solutions Architect Expert (AZ-305) and Azure AI Engineer Associate (AI-102), with Azure DevOps Engineer Expert (AZ-400) and the GitHub Copilot certification to follow.
- **Earlier Microsoft certifications (retired programs, 2006 – 2016):** MCSA SQL Server 2012 (Querying / Administering / Data Warehouse); MCSA Web Applications (ASP.NET MVC, C#, HTML5/JS/CSS3); plus MCTS/MCPD .NET, Solution Architecture, and SQL Server credentials.