

RAFAEL SAN VIDAL

Senior Software Developer | AI-Assisted Development Expert | Healthcare Domain Specialist

25+ YEARS PROFESSIONAL EXPERIENCE | 19+ YEARS HEALTHCARE EXPERTISE

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PROFESSIONAL PROFILE

Senior Software Developer with 25+ years of professional experience in enterprise solutions development. My journey started at age 13 with first 8-bit personal computers, writing my first BASIC programs. Specialized in healthcare sector for 19+ years at Becton Dickinson. Full-stack developer expert in .NET, Java, Spring Boot, Angular, React. Pioneer in AI-assisted development workflows.

Current Focus (2025): Building enterprise applications with .NET 9 and Java 21. Embracing AI-assisted development with Cursor, Claude Code and Gemini CLI. Creating cross-platform solutions implementing Clean Architecture and DDD patterns. **Vibe Coding Philosophy:** Leveraging AI to focus on problem-solving and architecture while accelerating implementation without sacrificing code quality.

Key Highlights: ✓ 25+ years professional experience ✓ Healthcare domain expert (BD Company since 2005 - 19+ years) ✓ Full-stack developer (.NET, Java, Spring Boot, Angular, React) ✓ AI-powered workflow enthusiast ✓ Enterprise architectures: Clean Architecture, DDD, CQRS, Microservices ✓ Multi-database expertise (SQL Server, Oracle, MySQL, DB2, PostgreSQL, MongoDB)

PROFESSIONAL EXPERIENCE

Senior Software Developer | Healthcare Solutions

2005 - Present

Becton Dickinson and Company

Key Responsibilities

- Full-stack development of healthcare applications (EMEA region)
- Architecture design, UI/UX, security and database management
- CI/CD, DevOps
- Team mentoring and code review practices

Healthcare Domain Expertise (19+ years)

- HL7/HL7-FHIR protocol implementation
- ASTM standards for laboratory automation
- RFID integration in hospital environments
- Real-time data processing for critical systems
- Mirth Connect healthcare integration platform

Quality & Security Standards

- Fortify OnDemand - Static Application Security Testing (SAST)
- SonarQube - Code quality and security analysis
- OWASP Top 10 compliance and vulnerability assessment
- Healthcare security standards (HIPAA, GDPR compliance)
- Penetration testing and security audits
- Code coverage and automated testing pipelines

Multi-Database Expertise

- Multi-motor support (MySQL, MariaDB, SQL Server, Oracle, DB2)
- Database migrations, Flyway y Entity Framework migrations
- Cross-database compatibility and optimization

Technical Skills



Software Developer (Part-time)

2014 - 2015

Omnibona S.L

Multi-platform Health Application

- Design and development of multi-platform application about healthy habits
- Nutrition and exercises in game mode for startup company

Technical Skills



Software Developer | Healthcare, Telecom, Public Services

2003 - 2005

Oesia

Clients: Telefónica, Hewlett-Packard, Siemens



Support Technical

2003

Easynet España S.A.

Technical Support

- Technical support and customer service

SAP Key Business | Business Analyst

1998 - 2003

L'Oréal Spain

SAP R/3 Project Leadership

- Business Key for SAP R/3 implementation (FI, CO, MM modules)
- Project planning, design and implementation of SAP modules
- Reports development and ABAP IV programming
- Business requirements analysis and stakeholder management

Historical Projects

- 2000 and Euro Projects - Y2K compliance and Euro currency conversion
- Management Applications - Accounts and Purchasing systems
- AS/400 and IBM AIX systems integrations

Technical Skills



Software Developer
Ministerio de Asuntos Exteriores

1998

Diplomatic Passports Management

- Design and create an application to manage diplomatic passports
- Passports management project development

Technical Skills

4GL CA Ingres

AI-ASSISTED DEVELOPMENT TOOLS (2024-2025)

Cursor Pro

AI-powered code editor with vibe coding practices

• INTEGRATED

Gemini CLI

Google's AI assistant for code generation

• INTEGRATED

NotebookLM

AI research and documentation tool

• RESEARCH TOOL

Claude Code

CLI-based AI assistant for development

• INTEGRATED

GitHub Copilot

AI pair programming assistant

• INTEGRATED

Vibe Coding Philosophy: Leveraging AI to focus on problem-solving and architecture while accelerating implementation without sacrificing code quality.

COMPLETE TECHNOLOGY STACK - 25+ YEARS EXPERIENCE

Backend/Languages
.NET 9 / C# 13
Java 21
Spring Boot 3.x
ASP.NET Core 9
Node.js / Express
Python / Django
PHP / Laravel
Erlang / Haskell

Mobile Development
Kotlin
Android Studio

Soft Skills
Team Leadership
Mentoring Junior Developers
Code Review & Quality Assurance
Technical Documentation
Stakeholder Communication
Problem Solving & Analytical Thinking
Agile/Scrum Ceremonies

Development Tools
Visual Studio Professional
Visual Studio Code
Cursor
Eclipse
IBM Rational Suite
Postman
Insomnia

Spring Boot Ecosystem
Spring Data JPA
Spring Security + OAuth2
Spring MVC / WebFlux
Thymeleaf
Spring AOP
Flyway Migrations
Spring Boot DevTools
Spring Validation
Thymeleaf Security Extensions
Spring Cloud

Java Ecosystem
Hibernate / JPA / Criteria API
Maven / Gradle
JUnit / Mockito
Apache CXF / Jersey
HikariCP (Connection Pool)

.NET Ecosystem
EF Core / Dapper / LINQ
NLog / Serilog
AutoMapper
Polly.NET
SignalR (Real-time)
xUnit / nUnit
Moq (Mocking)
Hangfire (Background jobs)
FluentValidation
MailKit

Historical Languages
ABAP IV (SAP)
RPG (AS/400)
4GL (Ingres)
COBOL
Pascal
C++

Frontend
React
Angular
TypeScript
Blazor WebAssembly
WPF / WinForms
Uno Platform / WinUI
HTML5 / CSS3
Vue.js

Cloud Platforms
Microsoft Azure
AWS

Project Management
Jira
Confluence

DevOps
Azure DevOps
Docker
Kubernetes
Terraform
Ansible
Git
GitHub
Jenkins
GitHub Actions
Subversion / CVS

Application Servers
Apache Tomcat
Microsoft IIS
Oracle WebLogic
WildFly
IBM WebSphere

Databases
SQL Server
MySQL
PostgreSQL
Oracle
IBM DB2
MongoDB
Redis
Cassandra
InterSystems Caché
Informix Dynamic Server
CA Ingres

AI Tools
Cursor
Claude Code
Gemini CLI
GitHub Copilot
Azure OpenAI Services
Semantic Kernel
NotebookLM

Testing Tools
Selenium WebDriver
Playwright
Jest
Vitest
Jasmine + Karma

Quality & Security

- Fortify OnDemand (SAST)
- SonarQube
- OWASP Top 10
- Healthcare Security (HIPAA, GDPR)
- Penetration Testing
- Code Coverage Analysis

Enterprise Systems

- SAP R/3 (FI, CO, MM)
- ABAP IV Programming
- Business Analysis
- Project Management
- AS/400 Systems
- IBM AIX

Big Data & Analytics

- IBM Cognos
- Talend ETL
- Elasticsearch
- Prometheus
- Grafana

Microservices & Messaging

- Apache Kafka
- RabbitMQ
- Spring Cloud (Eureka, Hystrix)
- Microservices Architecture
- Event-Driven Architecture

Specialized Technologies

- Blockchain & Web3 (Solidity, Ethereum)
- Game Development (Unity 3D, C#)
- IoT (Arduino, Raspberry Pi)
- Computer Vision (Abby Technologies, Infaimon CVB)
- Web Frameworks (WordPress, Joomla)

METHODOLOGIES & SOFTWARE ENGINEERING PRINCIPLES

Agile Methodologies

- Scrum (Sprint Planning, Daily Standups, Retrospectives)
- Kanban (Continuous Flow, WIP limits)
- XP (Extreme Programming)
- Lean Software Development

Architecture Patterns

- Clean Architecture
- Domain-Driven Design (DDD)
- CQRS (Command Query Responsibility Segregation)
- Repository Pattern
- Microservices Architecture
- Event-Driven Architecture
- SOA (Service Oriented Architecture)

SOLID Principles

- Single Responsibility Principle
- Open/Closed Principle
- Liskov Substitution Principle
- Interface Segregation Principle
- Dependency Inversion Principle

Testing Methodologies

- TDD (Test-Driven Development)
- BDD (Behavior-Driven Development)
- ATDD (Acceptance Test-Driven Development)
- Unit Testing / Integration Testing

Design Patterns (GoF)

- Creational: Factory, Builder, Singleton
- Structural: Adapter, Decorator, Facade
- Behavioral: Observer, Strategy, Command

Code Quality

- Clean Code Principles
- Code Review Practices
- Refactoring Techniques
- Technical Debt Management
- Documentation Standards

MACHINE LEARNING & DATA SCIENCE PROJECTS

Python Machine Learning

Scikit-learn, Pandas, NumPy projects

- Data analysis and statistical modeling
- Machine learning algorithms implementation
- Data preprocessing and feature engineering

Python 3, Scikit-learn, Pandas, NumPy, Jupyter

Deep Learning

TensorFlow and neural networks

- Neural network architecture design
- Deep learning model training
- Data preprocessing for ML

TensorFlow, Keras, Neural Networks, Data Preprocessing

Data Analysis Projects

Statistical analysis and visualization

- Statistical analysis and insights
- Data visualization and reporting
- Business intelligence solutions

Pandas, Matplotlib, Seaborn, Statistics

FEATURED PROFESSIONAL PROJECTS (BECTON DICKINSON - HEALTHCARE)

BD Support System - Hospital Inventory Management

Clean Architecture + DDD enterprise platform

- Hospital equipment tracking and location management system
- Clean Architecture with Domain-Driven Design (4 layers)
- 29 architectural patterns implemented (Repository, Specification, Unit of Work, etc.)
- Multi-database support (SQLite, MySQL/MariaDB, SQL Server, Oracle, DB2)
- JWT authentication with refresh tokens + Role-Based Access Control
- Cross-platform UI: React (Web) + Uno Platform (6 platforms)
- 115+ comprehensive tests (Unit + Integration + E2E with Playwright)
- Complete technical documentation (30+ detailed docs)
- Background jobs with Hangfire + Real-time notifications with SignalR

.NET 9, C# 13, Clean Architecture, DDD, CQRS, MediatR, Multi-DB, JWT, RBAC, Entity Framework Core 9, Minimal APIs, Swagger, AutoMapper, FluentValidation, Hangfire, SignalR, Uno Platform, React, TypeScript, XAML, Android, iOS, WebAssembly, Windows, macOS, Linux, Vitest, Playwright, xUnit, Moq

ScanBatch OCR - Document Processing System

Batch scanning with OCR and barcode recognition

- Abbyy SDK integration for high-quality OCR
- Barcode recognition library for automated processing
- TWAIN scanner driver support for hardware integration
- Windows Service daemon for background processing
- In production across 40+ hospitals

WPF, C#, Abbyy OCR, TWAIN, WIA, Windows Services

DB Transfer Client - Database Migration Tool

Cross-database data transfer utility

- Transfer data between different database engines
- Support for SQL Server, Oracle, MySQL, DB2
- ETL processes and data transformation

.NET, C#, Multi-DB, ETL

BD RFID System - Healthcare RFID Management

Full-stack enterprise platform for hospital sample tracking

- Tag Manage: RFID tag management interface
- Tag Backend: REST API with multi-database support
- SSTSDaemon: Background service for sample tracking
- Tag Shipping: PHP/Laravel shipping module
- Clean Architecture with Domain-Driven Design
- Real-time dashboard with WebSockets (Stomp.js)
- JWT authentication & session management
- WinUI 3 desktop application
- RFID reader integration (CAEN, Impinj)
- Distributed caching & high availability
- In production across 40+ hospitals

Spring Boot, Thymeleaf, Angular, TypeScript, .NET, C#, PHP, Laravel, Node.js, Express, Oracle, SQL Server, IBM DB2, MySQL, WebSockets, RFID, DDD, REST API, JWT, Swagger

BD Components - Cross-Platform Component Library

Reusable UI components with Uno Platform

- Single codebase: Android, iOS, Web, Windows, macOS, Linux
- XAML-based declarative UI
- Custom controls library for consistent design

Uno Platform, .NET, XAML, Android, iOS, WebAssembly, Windows, macOS, Linux

BD WiderLab System - Phlebotomy Room Management

Integral management of extraction rooms with HL7 messaging broker

- End-to-end workflow for phlebotomy room operations
- HL7 messaging broker for interoperability with hospital systems
- Integration with diagnostic devices
- In production across 40+ hospitals

Java, Eclipse, HL7

LEARNING & EXPERIMENTAL PROJECTS

AI/ML Projects

OpenAI API, Azure AI, prompt engineering

- Azure AI Integration with OpenAI services
- Prompt Engineering & AI Development techniques
- LLM Evaluation Framework development
- Semantic Kernel projects and plugins

Python, OpenAI API, Azure AI, LangChain, Semantic Kernel

DevOps Practice

Docker, Kubernetes, AWS, Azure pipelines

- Container orchestration with Kubernetes
- Cloud infrastructure automation
- CI/CD pipeline implementation

Docker, Kubernetes, AWS, Azure DevOps, Terraform

Microservices Netflix

Spring Cloud Microservices implementation

- Netflix stack implementation
- Service discovery with Eureka
- Circuit breaker pattern with Hystrix

Spring Boot, Eureka, Hystrix, Docker, Kubernetes

React Full Stack

Complete React + Node.js + MongoDB

- Full-stack web application development
- State management with Redux
- TypeScript integration

React, TypeScript, Node.js, Express, MongoDB, Redux

Testing Advanced

Playwright, Jest, Vitest, Testing Library, Selenium

- End-to-end testing automation
- Unit and integration testing
- TDD/BDD methodologies

Selenium, Playwright, Jest, Vitest, Testing Library, TDD/BDD

Cloud Functions

Serverless Computing

- Azure Functions development
- AWS Lambda implementation
- Serverless architecture patterns

.NET 9, Azure Functions, AWS Lambda, Serverless

Kotlin Android

Native Android development

- Mobile application development
- Android Studio integration
- Mobile UI design

Kotlin, Android Studio, Mobile UI

Azure AI Integration

Azure AI Services

- OpenAI SDK integration
- Semantic Kernel development
- LLM evaluation frameworks

.NET 8, Azure OpenAI, Semantic Kernel, Microsoft Extensions AI

Cloud Architecture

Azure + AWS deployment, DDD, TDD, IA integration

- Azure deployment with .NET 8
- Azure Functions serverless
- AWS deployment with Spring Boot
- Cloud architecture patterns and best practices

Azure, AWS, .NET 8, Spring Boot, DDD, TDD, Azure Functions, AWS Elastic Beanstalk

IoT & Embedded Systems Suite

Arduino, Ethernet Shield, Bluetooth, Web Services, Mobile Integration

- IoT system with Arduino and Ethernet Shield
- Web Services for remote communication
- CoAP and REST protocols for IoT
- Bluetooth integration for mobile devices
- Xamarin mobile app for remote control

Arduino, Netduino, C++, Ethernet Shield, Bluetooth HC-05, CoAP Protocol, aREST API, Xamarin, Android, Web Services

Blockchain/Web3 Development Suite

Solidity, Web3.js, Truffle, Ethereum, Smart Contracts

- Token ICO (Deka Token) with complete functionality
- Smart contracts for token management
- Ethereum testnet integration
- Web3 frontend for contract interaction
- Wallet integration system

Solidity, Web3.js, Truffle, Ethereum, Smart Contracts, JavaScript

Android/Kotlin Mobile Development

Native Android development with Kotlin

- Native Android application development
- Firebase authentication with Google OAuth
- UI/UX with ConstraintLayout
- Testing with JUnit and Espresso

Kotlin, Android Studio, Firebase Auth, Google Sign-In, JUnit, Espresso

Unity Game Development

2D game development with Unity 2020.3

- Complete 2D game with Unity
- Interactive text adventure game
- Dialogue and narrative system
- Game mechanics implementation
- Custom assets and sprites

Unity 2020.3, C#, Game Development, 2D Graphics

DevOps & Microservices Architecture

Kubernetes, Docker, .NET Core, Ocelot Gateway

- Complete microservices architecture
- API Gateway with Ocelot
- Docker containers for each service
- Kubernetes orchestration
- Multiple databases (MongoDB + SQL Server)
- Services: Gateway, Library, Security

Kubernetes, Docker, .NET Core, Ocelot, MongoDB, SQL Server, Microservices

SOFT SKILLS

- Team Leadership & Mentoring Junior Developers
- Code Review & Quality Assurance
- Technical Documentation

- Project Management
- Business Requirements Analysis
- Continuous Learning & Adaptability

- Stakeholder Communication
- Problem Solving & Analytical Thinking
- Agile/Scrum Ceremonies

TRAINING & CONTINUOUS EDUCATION (80+ COURSES SINCE 1998)

2024-2025 (AI-Assisted Development Era)

Formación Integral en Arquitectura Cloud, DDD, TDD e IA (2024) • Desarrollo con IA - AI-assisted development (2024) • Introducción a la IA y Prompt Engineering - AI fundamentals (2024) • Claude Code CLI - AI assistant integration • Gemini CLI - Google AI code generation • NotebookLM - AI research and documentation • .NET 9 & C# 13 (Udemy) • Blazor Development (YouTube) • Dapper ORM (YouTube) • DDD Microsoft Microservices • Sistema de ventas real (C# + Angular + Xamarin, YouTube) • ASP.NET Core Advanced (Udemy) • .NET MAUI Cross-platform (Udemy) • Entity Framework Core • React & TypeScript (Udemy) • Uno Platform Multi-platform • Azure DevOps Complete Guide (Udemy) • Jira Advanced Administration

2023

Ionic (app) y Net Core (backend) (Udemy) • Go / Golang desde las bases (Udemy) • Big Data Fundamentals (Udemy) • Dart & Flutter (Udemy) • Vue.js avanzado (Udemy)

2022

React + Redux (Udemy, Jul 2022) • .NET MAUI con Visual Studio 2022 (Udemy, Jul 2022) • DevOps, Docker, Kubernetes, microservices y Azure .NET 6 (Udemy, Jul 2022) • Azure Devops (Udemy, Jun 2022) • AWS (Udemy, Jun 2022)

2021

Go / Golang (Udemy, Ago 2021) • TDD - Test driven development con Java y JUnit (Udemy, Dic 2021) • Patrones de Diseño y principios SOLID (Udemy, May 2021) • Refactorizar código Java (Udemy, Mar 2021)

2020

DevOps. Las artes marciales del software (Udemy, Jun 2020)

2019

Java8. (Funcional y lambda) (Udemy, Sep 2019) • Microservicios con Spring Boot / Netflix Eureka (Udemy, Sep 2019) • Programación Python para Machine Learning (Udemy, Sep 2019) • Curso de Python 3 (Udemy, Ago 2019) • Desarrollo de videojuegos con Unity (Udemy, Jun 2019) • Mi primer videojuego con Unity (Udemy, Jun 2019) • API Restful con Laravel (Udemy, May 2019) • Dominando Laravel. De principiante a expert (Udemy, May 2019) • Android con Kotlin + Firebase + Google (Udemy, Abr 2019) • Machine Learning (Udemy, Mar 2019) • Curso de Django (Udemy, Ene 2019)

2018

Implementación de soluciones en Microsoft Azure (Udemy, Nov 2018) • Python + Django (Udemy, Jul 2018) • Desarrollo de dApps en la blockchain de Ethereum (Udemy, Jun 2018) • Introducción a blockchain. criptomonedas y Ethereum (Udemy, Jun 2018) • Xamarin Forms y Azure (Udemy, Mar 2018) • Angular 6 avanzado (Udemy, Ene 2018) • Curso avanzado de Docker (Udemy, Ene 2018) • Spring Framework 5 (Udemy, Ene 2018) • Persistencia de datos con Java. Hibernate + Spring JPA (Udemy, Ene 2018)

2017

ASP.NET Core MVC (Udemy, Nov 2017) • Curso de iniciación a Haskell (Udemy, Sep 2017) • Xamarin. Build Android and IOS Apps (Udemy, May 2017) • Servicios con WCF (Udemy, Apr 2017)

2016

Git + GitHub (Udemy, Mar 2016) • Desarrollo web Javascript, Angular, Node y MongoDB (Udemy, Apr 2016)

2015

SEO para WordPress (Udemy, Feb 2015) • Aprende a triunfar con SEO (Udemy, Feb 2015)

2014

Community Manager, Redes sociales (HP Formación, May 2014)

2013

Marketing 2.0 (Grupo Fides21, Mar 2013) • Team Building. Gestión de Liderazgo (Fides21, Dec 2013)

2006

IBM Rational V7. Clearcase, SOA, Business Modeler (Sep 2006) • IBM DB2 (Sep 2006) • Infaimon Sherlock. Vision Artificial (May 2006) • Infaimon CVB. Vision Artificial (May 2006)

2005

Gestión De Proyectos (Oesia, 160h, Jan 2005)

2004

Programación Visual C++ (Oesia, 40h, May 2004)

2003

Administración SQL Server (Sunion Gesfor, 40h, Nov 2003) • Programación Java (Oesia, 40h, Oct 2003) • Optimización Oracle 8i (MR Informática, 80h, Jun 2003) • PL/SQL (Dayfisa, 40h, Apr 2003) • Xml (IBM Learning, 30h, May 2003) • Administración Oracle (Dayfisa, 40h, May 2003) • Macromedia Flash (IBM Learning, 30h, Mar 2003) • Ingeniería De Software (Sunion Gesfor, Jan-Mar 2003)

2002

SAP MM. Verificación De Facturas (Sap España, 25h, Oct 2002) • Programación Avanzada Java (IBM Learning, 25h, Apr 2002) • Administración AIX (IBM Learning, 30h, Apr 2002) • Programación Avanzada RPG IV (AS/400) (IBM Learning, 50h, Feb 2002)

2001

Programación Java (Gesein, 100h, Feb-Abr 2001)

1999

Cobol – CICS – DB2 (Cap Gemini, 160h, 1999)

1998

Técnico En Sistemas Unix / Oracle (Sunion Gesfor, 350h, 1998) • Microinformática (Academia Teide, 300h, 1998)

Total courses completed: 80+ | Platforms: Udemy, IBM Learning, Oesia, Cap Gemini, Academia Teide, HP Formación, Fides21

Active learner since 1998 (25+ years of continuous training)

LANGUAGES

Spanish: Native • English: Professional level (technical documentation, written communication)

ADDITIONAL INFORMATION

- **Portfolio:** <https://rsvidal.github.io> - Terminal-style interactive portfolio showcasing 25+ years of experience
- **GitHub:** github.com/rsvidal - Open source contributions and personal projects
- **Work Arrangements:** Available for new opportunities and collaborations. Open to remote/hybrid work arrangements
- **Location:** Madrid, Spain (European Union) - Available for EU projects
- **Philosophy:** 25+ years applying software engineering best practices. Expert in modern development methodologies and architectural patterns. Strong advocate for clean code and quality engineering practices. Continuous learner since 1998
- **AI-Assisted Development:** Pioneer in leveraging AI tools for software development. Expert in Cursor Pro, Claude Code, Gemini CLI, and GitHub Copilot for enhanced productivity and code quality
- **Healthcare Domain:** 19+ years of specialized experience in healthcare software development, including HL7/HL7-FHIR protocols, ASTM standards, RFID integration, and real-time data processing for critical systems