

# 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

Nov 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 with Flyway
- Cross-database compatibility and optimization

### Technical Skills

.NET 9

C# 13

Java 21

Spring Boot

Spring Data JPA

Spring Security

React

Angular

TypeScript

Blazor

Thymeleaf

Bootstrap

Tailwind

SQL Server

MySQL

Oracle

IBM DB2

MariaDB

Azure DevOps

Docker

Git

Jira

SignalR

WebSockets

Socket.io

WPF

WinUI

Uno Platform

RCP / RAP

## Software Developer (Part-time)

Nov 2014 - Dec 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

ASP.NET MVC

Razor

Thymeleaf

Entity Framework

LINQ

HTML5

CSS3

Bootstrap

JavaScript

jQuery

Microsoft Azure

## Software Developer | Healthcare, Telecom, Public Services

Aug 2003 - Oct 2005

Oesia

Clients: Telefónica, Hewlett-Packard, Siemens

.NET

C#

SQL Server

Oracle

## Support Technical

Aug 2003 - Sep 2003

Easynet España S.A.

### Technical Support

- Technical support and customer service

## SAP Key Business | Business Analyst

Jan 2002 - Jul 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

SAP R/3

ABAP IV

C++

RPG

4GL

AS/400

IBM AIX

Oracle

CA Ingres

Software Developer

Jan 1998 - Jun 1998

Ministerio de Asuntos Exteriores

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



Claude Code

CLI-based AI assistant for development

• INTEGRATED



Gemini CLI

Google's AI assistant for code generation

• INTEGRATED



GitHub Copilot

AI pair programming assistant

• INTEGRATED



NotebookLM

AI research and documentation tool

• RESEARCH TOOL

**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 (Functional)

## Mobile Development

Kotlin (Android)  
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  
IntelliJ IDEA  
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  
Element UI (Vue.js)

## Cloud Platforms

Microsoft Azure  
AWS

## DevOps

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

## Project Management

Jira  
Confluence

## 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  
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 (Abbyy 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

### 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

### Code Quality

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

### Architecture Patterns

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

### Design Patterns (GoF)

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

# 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*

### **ScanBatch OCR - Document Processing System**

#### Batch scanning with OCR and barcode recognition

- Abbyy FineReader integration for high-quality OCR
- Barcode recognition library for automated processing
- TWAIN scanner driver support for hardware integration
- Windows Service daemon for background processing

*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

*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*

# 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, Testing Library, Selenium

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

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



## Cloud Functions

Serverless Computing

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

*.NET 9, Azure Functions, AWS Lambda, Serverless*



## Enterprise Legacy

SAP R/3, AS/400, IBM AIX projects

- SAP R/3 implementation (FI, CO, MM modules)
- AS/400 systems development
- IBM AIX server administration

*SAP R/3, ABAP IV, AS/400, IBM AIX, RPG, 4GL*



## 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

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

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

## Arduino IoT

Arduino + Bluetooth + Android, Ethernet Shield, CoAP

- IoT device development
- Bluetooth communication protocols
- CoAP protocol implementation

*Arduino, Netduino, CoAP Protocol, aREST API, Bluetooth HC-05*

## Mobile + IoT

Xamarin + Arduino, Android + Bluetooth

- Cross-platform mobile development
- IoT integration with mobile apps
- Bluetooth communication

*Xamarin, Android, Arduino, Bluetooth*

## SOFT SKILLS

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- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• Team Leadership &amp; Mentoring Junior Developers</li><li>• Code Review &amp; Quality Assurance</li><li>• Technical Documentation</li></ul> | <ul style="list-style-type: none"><li>• Stakeholder Communication</li><li>• Problem Solving &amp; Analytical Thinking</li><li>• Agile/Scrum Ceremonies</li></ul> |
| <ul style="list-style-type: none"><li>• Project Management</li><li>• Business Requirements Analysis</li><li>• Continuous Learning &amp; Adaptability</li></ul>                      |  |

## 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) • Patrones de Diseño Avanzados - SOLID, GoF patterns (2024) • Cursor AI & AI-Assisted Development - Vibe Coding practices • 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) • Laravel y vue.js avanzado (Udemy) • Vue.js (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](https://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