

# RAFAEL SAN VIDAL


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

25+ YEARS PROFESSIONAL EXPERIENCE | 19+ YEARS HEALTHCARE EXPERTISE

 [sanvidal1@gmail.com](mailto:sanvidal1@gmail.com)

 [linkedin.com/in/rsanvidal](https://linkedin.com/in/rsanvidal)

 [github.com/rsvidal](https://github.com/rsvidal)

 Madrid, Spain (EU)

 [rsvidal.github.io](https://rsvidal.github.io)

## 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 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)

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

ASP.NET MVC

Razor

Thymeleaf

Entity Framework

LINQ

HTML5

CSS3

Bootstrap

JavaScript

jQuery

Microsoft Azure

## Software Developer | Healthcare, Telecom, Public Services

2003 - 2005

Oesia

Clients: Telefónica, Hewlett-Packard, Siemens

.NET

C#

SQL Server

Oracle

## 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

SAP R/3

ABAP IV

C++

RPG

4GL

AS/400

IBM AIX

Oracle

CA Ingres

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

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



ChatGPT5 Codex

OpenAI's advanced AI coding assistant

• 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)

## Frontend

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

## Mobile Development

Kotlin (Android)  
Android Studio

## Databases

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

## .NET Ecosystem

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

## Java Ecosystem

Hibernate / JPA / Criteria API  
Maven / Gradle  
JUnit / Mockito  
Apache CXF / Jersey

## 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

## DevOps

Azure DevOps  
Docker  
Kubernetes  
Terraform  
Ansible  
Git  
GitHub  
GitHub Actions  
Jenkins

## Cloud Platforms

Microsoft Azure  
AWS

## Application Servers

Apache Tomcat  
Microsoft IIS  
Oracle WebLogic  
WildFly  
IBM WebSphere

## 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

## AI Tools

Cursor  
Claude Code  
Gemini CLI  
ChatGPT5 Codex  
GitHub Copilot  
Azure OpenAI Services  
Semantic Kernel  
NotebookLM

## Development Tools

Visual Studio Professional  
Visual Studio Code  
Cursor  
Eclipse  
IBM Rational Suite  
Postman / Insomnia

## Enterprise Systems

SAP R/3 (FI, CO, MM)  
AS/400 Systems

## Microservices & Messaging

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

## Big Data & Analytics

IBM Cognos  
Talend ETL  
Elasticsearch  
Prometheus  
Grafana

## Specialized Technologies

Blockchain & Web3 (Solidity, Ethereum)  
Game Development (Unity 3D, C#)  
IoT (Arduino, Raspberry Pi)  
Computer Vision (Infaimon CVB)  
Document Recognition & Processing (Abbyy Technologies)  
CMS Development (WordPress, Joomla)

### Project Management

Jira  
Confluence

### Soft Skills

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

### Historical Languages

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

## 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, 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
- Stakeholder Communication
- Problem Solving & Analytical Thinking
- Agile/Scrum Ceremonies
- Project Management
- Business Requirements Analysis
- Continuous Learning & Adaptability

## TRAINING & CONTINUOUS EDUCATION (80+ COURSES SINCE 1998)

### 2024-2025 (AI-Assisted Development Era)

Formación Integral en Arquitectura Cloud, DDD, TDD e IA - AI-assisted development • Desarrollo con IA - AI-assisted development • Introducción a la IA y Prompt Engineering - AI fundamentals • 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 • .NET MAUI con Visual Studio 2022 - Udemy • DevOps, Docker, Kubernetes, microservices y Azure .NET 6 - Udemy • Azure Devops - Udemy • AWS - Udemy

### 2021

Go / Golang - Udemy • TDD - Test driven development con Java y JUnit - Udemy • Patrones de Diseño y principios SOLID - Udemy • Refactorizar código Java - Udemy

### 2020

DevOps. Las artes marciales del software - Udemy

### 2019

Java8. (Funcional y lambda) - Udemy • Microservicios con Spring Boot / Netflix Eureka - Udemy • Programación Python para Machine Learning - Udemy • Curso de Python 3 - Udemy • Desarrollo de videojuegos con Unity - Udemy • Mi primer videojuego con Unity - Udemy • API RestFul con Laravel - Udemy • Dominando Laravel. De principiante a expert - Udemy • Android con Kotlin + Firebase + Google - Udemy • Machine Learning - Udemy • Curso de Django - Udemy

### 2018

Implementación de soluciones en Microsoft Azure - Udemy • Python + Django - Udemy • Desarrollo de dApps en la blockchain de Ethereum - Udemy • Introducción a blockchain. criptomonedas y Ethereum - Udemy • Xamarin Forms y Azure - Udemy • Angular 6 avanzado - Udemy • Curso avanzado de Docker - Udemy • Spring Framework 5 - Udemy • Persistencia de datos con Java. Hibernate + Spring JPA - Udemy

### 2017

ASP.NET Core MVC - Udemy • Curso de iniciación a Haskell - Udemy • Xamarin. Build Android and IOS Apps - Udemy • Servicios con WCF - Udemy

### 2016

Git + GitHub - Udemy • Desarrollo web Javascript, Angular, Node y MongoDB - Udemy

### 2015

SEO para WordPress - Udemy • Aprende a triunfar con SEO - Udemy

### 2014

Community Manager, Redes sociales - HP Formación

### 2013

Marketing 2.0 - Grupo Fides21 • Team Building. Gestión de Liderazgo - Fides21

### 2006

IBM Rational V7. Clearcase, SOA, Business Modeler • IBM DB2 • Infaimon Sherlock. Vision Artificial • Infaimon CVB. Vision Artificial

### 2005

Gestión De Proyectos - Oesia

### 2004

Programación Visual C++ - Oesia

### 2003

Administración SQL Server - Sunion Gesfor • Programación Java - Oesia • Optimización Oracle 8i - MR Informática • PL/SQL - Dayfisa • Xml - IBM Learning • Administración Oracle - Dayfisa • Macromedia Flash - IBM Learning • Ingeniería De Software - Sunion Gesfor

### 2002

SAP MM. Verificación De Facturas - Sap España • Programación Avanzada Java - IBM Learning • Administración AIX - IBM Learning • Programación Avanzada RPG IV (AS/400) - IBM Learning

### 2001

Programación Java - Gesein

### 1999

Cobol – CICS – DB2 - Cap Gemini

### 1998

Técnico En Sistemas Unix / Oracle - Sunion Gesfor • Microinformática - Academia Teide

# 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/FHIR protocols, ASTM standards, RFID integration, and real-time data processing for critical systems