GERMÁN CABALLERO RODRÍGUEZ

Senior Software Engineer

(Enterprise Architecture, Modernization & Applied GenAI)

Languages
English
(upper-intermediate / **B2**)
Spanish (native)

german.caballero.rguez@gmail.com
Based near Madrid, Spain
Remote/B2B · Open to relocate
Portfolio: athagon.tech/en/

PROFESSIONAL SUMMARY

Senior Full-Stack Software Engineer with 20+ years of experience architecting, designing, modernizing and delivering enterprise systems using Java/Spring, Angular and C#/.NET.

Modernized SAM (16 modules), serving 44 applications at two EU institutions (CoR/EESC); Java Core (six Java apps), REST clients and eSign; Angular, Python QA, Azure DevOps CI/CD.

Deployed a bilingual Java 21/Spring AI/Angular RAG with verified AWS Lambda/S3 Vectors failover. Focus on resilient system integration, backward compatibility and measurable engineering quality.

Selected projects

2026

R4R RAG — Applied GenAI
Java 21, Spring AI, Angular, Python, pgvector, Ollama, AWS Lambda / S3 Vectors

2025

EU Modernization — SAM & eSign
Java 17, Spring 6, Jakarta, Hibernate 6, Angular, REST, Azure DevOps

2019

Virtual Mirror — 3D/AR
Unity 3D, C#/.NET, Kinect V2, HLSL, OpenGL, NVIDIA Flex, 3D Mesh Processing

2016

Motivation Game M1 — Gamification
Java, Spring REST, AngularJS, MySQL, Unity 3D, C#/.NET, Load Testing

2014

Spanish Language Route — EdTech
Unity 3D, C#/.NET, Java, SmartFoxServer, MySQL, Educational MMO

2009

CECA — Financial Market Data
Java, JSP/JSF, Oracle SQL, JavaScript, C++, Banking Applications

KEY SKILLS: Java 11–21, Spring Boot/6, Spring Security, Jakarta EE/Hibernate, Angular, TypeScript, Python, C#/.NET, System Design, Distributed Systems, Microservices, REST API Design/OpenAPI, System Integration, IAM/JWT, Oracle, PostgreSQL/pgvector, Automated Testing (JUnit/Newman), Azure DevOps CI/CD, Git, Docker, Technical Leadership, Generative AI, RAG, embeddings/vector search, Spring AI, AWS Lambda/S3 Vectors, Agentic Workflows.

WORK EXPERIENCE

Independent Software Consultant – Applied GenAI

Freelance & Independent Projects

14 Jan 2026 – Present — Spain

- Architected and deployed a bilingual Generative AI/RAG assistant for **Riansares 4R** using Java 21, Spring AI and Angular, with Python ingestion, embeddings, pgvector search, citations, abstention and SSE streaming.
- Verified Amazon Web Services (AWS) Lambda/S3 Vectors retrieval failover by deliberately stopping PostgreSQL in the deployed environment; separately tested OpenAI API generation fallback.
- Built automated RAG tests (547 unit, 86 integration, 9 Lambda) and 70 bilingual evaluations cases; tuning improved accepted answers from 58/70 to 66/70.
- Built AI-assisted development and multi-agent workflows using Git worktrees, scoped tool access, automated testing and human code-review gates (Codex/OpenCode).

Tech: Java 21, Spring Boot/AI, Angular, TypeScript, Python, PostgreSQL/pgvector, embeddings, vector search, Ollama/local LLMs, RAG evaluation, prompt engineering, AWS Lambda/S3 Vectors, IAM, CloudWatch, SSE, Docker, Git; Claude Code, Aider, Codex, OpenCode, Cline, OpenClaw, GitHub Copilot.

Senior Full-Stack Java/Angular

EU – Netcompany – B2B

08 Nov 2021 – 22 Dec 2025 — Remote (Malta, Italy, Panamá & Spain)

- Modernized **SAM** (System Access Management; 16 Java/Spring Maven modules) through production to Java 17/Spring 6/Jakarta/Hibernate 6, supporting access to 44 applications at the European Committee of the Regions and European Economic and Social Committee.
- Modernized shared **Java Core** (~15 modules; used by six Java apps), five REST API client modules and production **eSign** (DSS digital signatures/certificate validation), preserving API contracts and backward compatibility.
- Designed and built two original Angular administration applications (70+ components, 20+ services), including reusable UI components, services and REST integrations; extended a PrimeNG Design System across 7 applications.
- Engineered automated API regression testing with Newman/Postman and Python baselines for 2,100+ checks; regression triage helped raise the passing rate from ~50% to ~85% in a measured phase.
- Built ~10 Azure DevOps CI/CD pipelines from scratch, replacing Jenkins jobs for build and deployment across environments; made releases repeatable and easier to troubleshoot.
- Resolved eSign/JWT, Oracle, Redis and security integration issues; documented Microsoft Entra ID transition constraints and coordinated cross-team fixes.

Tech: Java 11/17, Spring 6/Boot, Spring Security, Jakarta, Hibernate 6/JPA, JUnit, Angular, TypeScript, HTML5/CSS3, REST/OpenAPI, Jersey 3, OpenAPI Generator, Tomcat, Checkstyle, Oracle, Redis, LDAP/JWT, Microsoft Entra ID, Python, Newman, Maven, Jenkins, Azure DevOps, ChatGPT, JetBrains AI Assistant, Atlassian (Jira, Confluence, Bitbucket).

Independent Software Developer & Technical Lead

Independent Projects & Academy Collaborations

2020–2025 (intermittent) · Mentored 20+ junior developers across Java, Python and Unity initiatives, leading technical scope, code reviews and delivery decisions.

- 2020 · Trading Automation (2 months) — Java/Selenium browser automation; solo prototype.
- 2021 · Salva la Navidad AR (5 months) — Children's augmented-reality story prototype.
- 2022 · **Motivation Game M1** (3 months) — Java/Unity restoration, microservices and team supervision.
- 2024 · House View U3D (3 months) — Interactive 3D architectural visualization in Unity.
- 2025 · Financial Analysis (3 months) — Python collaboration, technical coordination and code review.

Tech: Java, Spring Boot, Spring Cloud Gateway, Python, Selenium, Unity 3D, C#/.NET, Augmented Reality (AR), Docker Compose, MariaDB, REST APIs, Git, Scrum, microservices, QA/code review.

Technical Trainer

Pronoide, INCYDE (Spanish Chambers of Commerce)

15 Sep 2016 – 25 Nov 2022 — Employee & B2B across Spain

- Delivered ~70 technical courses (~3,000 hours) for 12+ enterprise/public organizations, including IBM/ViewNext, Indra, ATOS, TRAGSA and Spain's Ministry of Finance.
- Designed hands-on labs and assessments; coached developers through Agile/Scrum teamwork, code reviews and iterative software delivery.
- Taught Java/Spring, C/C++, C#/.NET, Python, Angular, software architecture, design patterns, testing/TDD and debugging.

Tech: Java/J2EE/Jakarta, Spring Boot/MVC/Data/JPA/WebFlux/Cloud Gateway, Angular/AngularJS, React, JavaScript/TypeScript, HTML5/CSS3, Python, C/C++11, C#/.NET, VB.NET, ASP.NET/ADO.NET/Windows Forms, Unity 3D, PHP, SQL/MariaDB, REST, Git, MEAN (MongoDB/Express/Node.js), JUnit/Mockito, Selenium/TDD, Maven, Jenkins, Docker Compose, CI/CD, Xamarin, Cordova/PhoneGap, XML/XPath.

EARLIER EXPERIENCE

C#/.NET & Unity 3D Senior Developer — Freelance

15 Dec 2017 – 24 Aug 2021 — Ireland & Spain

- Architected Unity/C# virtual try-on, Kinect interaction and 3D visualization applications, combining reusable mesh-processing components, GPU shaders and modular software design.
- Engineered REST/media clients, encrypted UUID caching and asynchronous loading; built tools for ~60 audiobooks for Toys and Colors (~340K estimated Android installs).

Tech: Unity 3D, C#/.NET, HLSL, OpenGL, NVIDIA Flex, Kinect, Python, Android/iOS, REST APIs, asynchronous programming, encrypted caching, Visual Studio, AWS exposure, Git.

Co-founder, Software Architect & Developer — Athagon

01 Feb 2012 – 30 Sep 2016 — Madrid, Spain

- Co-founded and led a team of up to five, owning architecture, requirements, estimation, technical decisions, code reviews, client delivery and mentoring.
- Architected Motivation Game M1 end-to-end: Java/Spring REST backend, AngularJS web UI, MySQL data model and Unity/C# client; load-tested with ~30 distributed instances.
- Shipped Save the Orcs (50,000+ downloads; 60+ levels), Spanish Language Route and 3 client websites; built Unity tools (Action Box/Easy Tools 2D) and a neural-network/genetic-algorithm prototype (2016).

Tech: Java/Spring REST, Spring Framework, AngularJS, JavaScript/jQuery, HTML5/CSS3, Unity 3D, C#/.NET, PHP, MySQL/SQL Server/SQLite, SmartFoxServer, XML/JSON, Android/iOS, Windows Forms, Vuforia, GIS integration, Git/SVN, Linux shell.

Earlier Experience — Madrid · 2006–2010

- Zenithal — **Head of Development Department** | Feb–Dec 2010
  Led fleet software development and supervised a developer, delivering C++ MDT interfaces and Java/J2ME embedded clients. Components were deployed on ~2,100 MDT units and ~1,300 additional embedded terminals.
- Indra Group — **Senior C++ Developer** | Jun 2009–Feb 2010
  Developed C++/wxWidgets GUIs for VoIP and road/maritime traffic systems.
- CECA — **Senior Java Web Developer** | Feb–Jun 2009
  Modernized Java/JSF interfaces and Oracle integrations for banking market-data valuation.
- DATISA — **C++ Developer** | May 2008–Feb 2009
  Built C++ PDA inventory applications, SOAP integrations and database-mapping utilities.
- MSS — **Software Developer** | Oct 2006–May 2008
  Built Lotus Domino workflows with SQL imports and Office/PDF exports; authored multilingual form-localization logic reused by a three-person team across hundreds of business forms.

Tech: C++, Java/J2ME, Java/JSF, Oracle, SQL Server, ASP.NET, SOAP, Lotus Domino, LotusScript/@Formula, wxWidgets, Git/SVN.

TECHNICAL SKILLS

	AI / GenAI	Code	Technologies	DB / APIs	Platforms / OS
Expert	**ChatGPT/Codex**	**Java**	**Spring Boot**	**Oracle**	**Web**
	GitHub Copilot	**TypeScript**	**Angular**	**REST APIs**	**Windows/Linux**
Advanced	OpenCode / Ollama	Python	JPA/Hibernate	SQL/PostgreSQL	Docker/Compose
	RAG / AI Agents	C# / .NET	Spring AI	MySQL/MariaDB	Android / iOS
Mid-level	OpenClaw / Claude	C / C++	Tailwind CSS	pgvector	AWS Lambda/S3
	Agentic workflows	PHP	Node/Express	Redis/MongoDB	Cloudflare
DevOps:	Azure DevOps	Git	Jenkins	Confluence	Jira

International Experience

- Lived and worked remotely with international teams across Spain, Ireland, Italy, Malta and Panamá.
- Travelled to Belgium for work meetings and technical sessions.
- Spent nearly three months in Ireland, including Galway, English study and volunteer work.
- Additional exposure in the UK, Germany, Portugal and Switzerland.

SKILLS

- Data analysis
- Software architecture
- Testing
- UI/UX (User Experience)
- Requirements analysis
- Agile methodologies
- Quality Assurance
- Project planning
- Teaching & mentoring
- Team coordination

Additional Technologies

Jakarta EE, JAX-RS, Servlet API, OWASP, Vue, Redux, NoSQL, Mongoose, Sonar, Apache Cordova/PhoneGap, JSP/JSF, ASP.NET, ADO.NET, Toad, Flask, Xcode, Visual Basic .NET, Xamarin, Windows Forms, XML, XSD, XPath, JSON, AJAX, Android, iOS, wxWidgets, SmartFoxServer, VirtualBox, Lotus Notes/Domino, LotusScript, CMake, SOAP/gSOAP, GIS, Eclipse, Visual Studio, OAuth2, ArcGIS, CVS, Trac, UNIX, Batch/Shell Script, UI/UX.

EDUCATION

2026 2025 2024 2023 2022 2021 2020 2019 2018 2017 2016 2015 2014 2013 2012 2011 2010 2009 2008 2007 2006 2005 2004 2003 2002 2001 2000 1999

- **Make Agentic AI Work for You** - IBM SkillsBuild — AI agents, RAG and multi-agent systems — Jul-Aug 2026
- **Python and Statistics for Financial Analysis** — The Hong Kong University of Science & Technology — Feb-Jun 2026
- Short courses: AI, JetBrains IDEs & Azure DevOps — 2022-2024
- Conferences on Functional Programming, JVM, Groovy, React.js, CSS, TensorFlow and ML — 2018-2019
- **Oracle Certified Professional, Java SE 6 Programmer** — Oracle University — Dec 2016
- Artificial Intelligence practicals (football agent); Compilers — Autonomous University of Madrid — Oct-Dec 2013
- **Mobile App Development Program** — BAI Training Center **- 250 h** — Jan-Mar 2012
- **Gamification workshop and UX development** — Guipuzkoa University - 72 h — Nov-Dec 2011
- **Computer Engineering Studies** (1 year completed) — Carlos III University — Sep 2007 Jun 2008
- **Higher Vocational Training in Computer Application Development** — IES Juan de la Cierva — Sep 2005 Jun 2007
- **Java Programming & Related Technologies** — Polytechnic University of Madrid - 220 h — Apr-Jun 2006
- **PC Maintenance & Repair Course** — CETIC - 32 h — 2004
- **Self-training** in C, C++ and Visual Basic — 1999