

# Antonio Alonso Dominguez

*Principal Software Engineer*

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## Profile

Highly experienced software engineer specialised full software lifecycle with solid foundations on architecture, distributed computing and DevOps. I thrive working in agile environments where multi-faceted teams are common place and collaboration and good communication is a must, specially with distributed teams where asynchronous communication is common place.

After 10 years using *traditional* OOP techniques, I became a functional programmer advocate and mentor after successfully put into production several services using FP principles while training other engineers. My experience as a trainer also extends over to architecture and design of complex software systems using techniques like "Event-Driven Design" and their topology in cloud services.

In addition to my experience as software engineer, before reaching the role of Principal Software Engineer I have grown my skillset around the DevOps mindset, whether it is about platforms, cloud providers or build tools trying to find the best match for each kind of project.

## Experience

### Detailed

2023–present **Senior Backend Engineer**, *SiriusXM.com*, Barcelona (Spain), Contractor

Commerce Platform

Achievements:

- Implementation of business billing logic on top of Stripe.
- Handling of business house keeping tasks via AWS Lambdas.
- Support tracing and monitoring of services and lambdas using Datadog.

**Tech Stack:** *Scala, Typelevel Stack (Cats Effect, FS2), Typescript, AWS (DynamoDB, Kinesis, Lambda), Docker, CDK, Datadog, Stripe*

2022–2023 **Full Stack Engineer**, *CollegeVine.com*, Barcelona (Spain), Contractor

CollegeVine Platform

Achievements:

- Enforcing security practises around CRM integrations with thrid party schools.
- Providing higher visibility privileges for school users with administrative role so they can supervise their Admission Officers.

**Tech Stack:** *Ruby On Rails, PureScript, Haskell, Redis, Postgresql, Docker, Heroku, AWS, Terraform*

- 2020–2022 **Chief Architect**, *BankiFi.com*, Manchester (UK) and Barcelona (Spain), Contractor  
BankiFi Platform  
Achievements:
- Leading development of the BankiFi Platform with full hands on deck.
  - Productionizing initial prototype and taking it into market as MVP.
  - Performing interviews and support during hiring of new engineers.
  - Leading development of integration and customizations for other B2B partners.
  - Re-designing the whole infrastructure in Azure and creating a templated setup that then was used in the SaaS offerings.
  - Supervise the launching of mobile app *Incom€ing* and using it as a foundation for other white-label offerings.
  - Improving delivery and productivity by moving all small coding repos into a single mono-repo while pushing for achieving full Continuous Delivery.
  - Running training sessions and talks on various topics with the rest of the engineering team.
- Tech Stack:** *Scala, Akka HTTP, Cats Effect, Cats Tagless, FS2, Shapeless, Kamon, Kafka, Docker, Kubernetes, Helm, MongoDB, Azure, Pants, Python, Go*
- 2019–2020 **Technical Leader**, *WeJo.com*, Manchester (UK), Contractor  
Product Adept  
Achievements:
- Benchmarking and optimisation for throughput of Spark Streaming jobs reading 500.000 msgs/sec from Kafka topics.
  - Re-engineering of the default Egress Streaming platform using pure-functional Scala as a replacement to the Spark-based implementation, achieving similar throughput but reducing cost significantly since it required less resources and it enabled the business to do Continuous Delivery and no-downtime releases.
  - Design and implementation of real-time tracker for cars which, when provided with a series of geocoordinates for specific roads, could collect and send stats based on average speed, speed limits, traversal time, etc. The system was developed using a clustered Akka setup with sharding across the different nodes.
- Tech Stack:** *Scala, Akka Cluster, Cats Effect, FS2, Kamon, Shapeless, Spark, Databricks, Kafka, Docker, AWS Fargate, SBT*
- 2016–2019 **Principal Software Engineer**, *Rentalcars.com/Booking.com*, Manchester (UK)  
Data & Reporting department  
Achievements:
- Built from the ground up two real-time analytics platforms using Lamda Architecture:
    - A customer-centric segmentation platform for customer personalisation purposes.
    - A framework and backend for multi-variant testing of our front-end, in which hundreds of A/B experiments are run on a daily basis.
  - *Re-engineered for scalability* a big chunk of our taxi service **Rideways.com** (now Booking Taxis) prior to our fusion with Booking.com so it could handle the upcoming load.
  - Introduced the practice of *mob programming* as a way of creating a cohesive team and upskilling quickly the members with some experience gap in relation to the senior members.
  - Successfully mentoured several developers into Scala and functional programming.
- Tech Stack:** *Scala, Akka Cluster, Akka Streaming, Cats, Kamon, Kafka, Spark, EMR, Kinesis, DynamoDB, Docker, Kubernetes, AWS, SBT*

2015–2016 **Software Team Leader**, *Rentalcars.com*, Manchester (UK)

Communications Platform

Achievements:

- No more outages. This platform used to have severe outages every single week, which were extremely costly. This was achieved by:
  - Removing queues, we changed it from having 25 different queues to just 2.
  - Re-design the data model, which was stored in Couchbase, so the operation of the platform would produce less object mutations and therefore trigger compaction less often.
  - Used lock-free asynchronous (reactive) programming for streamlining the IO work.
  - Deleting loads of code, seriously, we had a 75% of code duplication at the start.
- Reduced cost of operation by moving from bare metal to virtualized environment.
- As a by-product, we got a 3x throughput increase and ability to handle a load at least 10 times bigger at 40% of the original operational cost.
- First project in the company using an agile methodology and techniques like pair programming and TDD.

**Tech Stack:** *Java, RX-Java, Spring, RabbitMQ, Couchbase, Gradle*

### Summarized

2014–2015 **Senior Software Engineer**, *Nektan*, London (UK)

Real Money Gaming Platform

2012–2014 **Senior Software Engineer**, *Magnetise Group*, London (UK), Contractor

Lead Generation Platform

2011–2012 **Application Architect**, *GE Capital*, Manchester (UK), Contractor

GE Fleet - Quote To Install Platform

2010–2011 **Senior Software Engineer**, *Indra Software Labs*, A Coruña (Spain)

Gas Natural CRM

2007–2010 **Software Engineer**, *Softek GDC Europe*, A Coruña (Spain)

Several Positions

2005–2007 **Software Engineer**, *Interlogical Data Systems*, A Coruña (Spain)

FERE Resource Planning Platform

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## Education

2004–2006 **NVQ 4 - Software Engineering**, *IES Fernando Writz*, A Coruña (Spain), *First Grade*

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## Skills

Architecture	CQRS, Event-Sourcing, Lambda Architecture	Platforms	Kubernetes, Helm, Docker, Hadoop, AWS, Azure
Programming	Scala, Haskell, Python, Go, Terraform	Frameworks	Akka, Typelevel Cats, Apache Spark, Servant
Databases	MySQL, Couchbase, MongoDB, DynamoDB	Middleware	Kafka, Kinesis, RabbitMQ
Methodologies	Scrum, Kanban, eXtreme Programming, Event-Storming	Practises	Continuous Delivery, TDD, Pair & Mob Programming

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## Languages

Spanish	Native
Galician	Native
English	Proficient

Italian Fluent

## OpenSource Contributions

- `pants` The Pants Build tool (Maintainer)  
<https://github.com/pantsbuild/pants>
- `cron4s` Scala CRON parser (Author)  
<https://alonsodomin.github.io/cron4s>
- `hschema` Haskell Schema Definitions (Author)  
<https://github.com/alonsodomin/haskell-schema>
- `sbt-spark` SBT plugin for configuring Apache Spark applications (Author)  
<https://github.com/alonsodomin/sbt-spark>