

Antonio Gelameris

SENIOR SOFTWARE DEVELOPER

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"In order to understand recursion, one must first understand recursion"

Professional Summary

I'm a **Scala** developer with a passion for creating elegant solutions. As a backend programmer with more than eight years of career experience, I have developed fast and reliable applications. I am a **self-learner**: I have started a career as a programmer despite it not being the core of my academic education. In my training as a **physicist**, I have acquired skills that allow me to have a different view of problems. I am a Scala enthusiast and community events organizer ([Scala Milano Meetup](#) and [Scala Italy](#)). I **keep studying** to enhance my knowledge, open up to new **libraries / technologies** and contribute to Typelevel's Open Source projects. Currently, I'm in love with **Scala CLI** and I wrote [an article on Rock The JVM](#) about it. I currently maintain the **Typelevel's toolkit** and other Typelevel's libraries.

Experience

IOV42

London, UK - Remote

SENIOR SOFTWARE DEVELOPER

Sep. 2023- Present

- Development of a **distributed ledger** system implementing a **custom transaction protocol**, leveraging **Apache Kafka**, **Scala**, and the **Typelevel stack** to ensure scalability, fault tolerance, and efficiency.
- Engineered storage and authentication/authorization microservices using **Scala 3** and **Typelevel stack libraries**, delivering secure, high-performance solutions for critical application infrastructure.
- Set up CI pipelines with **Concourse** to build, test, package, and deploy applications across various **Kubernetes** environments, streamlining development and ensuring consistent delivery.

PagoPa S.p.a.

Milano, Italy

SENIOR SOFTWARE DEVELOPER

Sep. 2021- Aug. 2023

- Design and development of the biggest distributed **authorization server** for the whole Italian Public Administration using Akka Persistence, Akka HTTP and **Event Sourcing**.
- In charge of the Scala and Sbt tooling for linting, **CI** and code quality.
- Development of lightweight tools using **Scala-CLI** and **Scala-Native** to perform little maintenance tasks
- In charge of **Mentorship** of younger colleagues about Scala and Functional Programming Paradigms
- **Speaker** at Codemotion's Workshops for PagoPa

LastMinute.com

Chiasso, Switzerland

SCALA SOFTWARE DEVELOPMENT - DATA ARCHITECT SPECIALIST

Dec. 2019 - Sep. 2021

- In order to improve performances and fault tolerance I redesigned an application that was heavily relying on Avro serde, converting the whole process in a $Array[Byte] \Rightarrow Array[Byte]$ mapping, clustering it using Akka plus its **Grpc** communication module and deploying it on **Google Cloud Platform**.
- I implemented an optimized **MySQL** to Vertica replicator that reads and deserializes binlogs discarding the useless operations. It uses **ANTLR** to parse the MySQL grammar to create the **AST** used as internal representation for the DDL statements. The internal data structure used to hold DML transactional data is an **Adaptive Radix Tree**.
- Every project was developed in conjunction with at least one junior colleague, in order to **mentor** about Scala, FP, cloud technologies, application design, etc.

Bitrock s.r.l.

Milan, Italy

SCALA SOFTWARE DEVELOPMENT

Dec. 2018 - Dec. 2019

- For a telco customer I contributed to develop a real time radio towers' kpi monitoring application using **Spark** and **Scala**. The application main goal is to process a big amount of data to check if some quality threshold has been exceeded and to raise an alarm. Using **Cats** to implement the validation logic and functional error handling of the configuration companion microservice has been the most intriguing challenge.
- I built a POC using **Kafka Streams** Scala API to monitor and process in real time a **WebSocket** channel of geolocalized events to produce aggregated information and metrics.

FacilityLive OpCo S.r.l.

JAVA SOFTWARE DEVELOPMENT

Pavia, Italy

Jan. 2017 - Dec. 2018

- I have been solely responsible for the development of more than 10 **Microservices** using **Spring Boot**. This microservices represented the connection and orchestration layer between a custom search engine platform deployed on **Kubernetes** and the data processing layer developed using **Spark** and deployed on **Mesos**. Every customization of the multi tenant application had to trigger a Spark job responsible of producing **Lucene** indexes whose search engine custom search was based on.
- I participated in the creation and design of a data parser that included an **HTML crawler/spider** using **Akka** to gather metadata to be used as search engine indexes.

SDG Consulting s.r.l.

BIG DATA ANALYST

Milan, Italy

Jun. 2016 - Jan. 2017

- I was the responsible for the design, installation and the maintenance of **IBM Watson Explorer** Products (the entire BlueMix Suite) for banks, pharma and telco customers.
- I have migrated 10000+ store procedures from Microsoft SQL Server 2008 to IBM PureData forAnalytics for a client, in order to reduce query execution times by an order of 3 magnitudes.

Skills

SCALA/JAVA STACK

- **Typelevel** stack, **Akka/Pekko** suite, library maintainer at Typelevel
- Scala3, Scala.js, Scala Native
- Solid Knowledge of **JVM Internals** and **Scala Type System**
- Experienced in building CI/CD pipelines for Scala and in Scala tooling

OTHER

- Solid Knowledge of both **Functional Programming** methodologies and **Object Oriented Design Patterns**
- Various RDBMS & NoSQL DBs APIs, Serialization Algorithms, Communication Protocols, Build Tools, etc
- Very interested in Category Theory and theoretical aspects behind functional programming
- **Rust** and **Haskell** occasional user
- **Crafting Interpreters** avid reader

SOFT SKILLS

- Very good **relationals skills** and good teammate used to work in 10+ members remote team
- Able to work in high-stress, fast-paced, and dynamic situations even **under pressure** or close to a delivery
- Ability to solve problems in a **fast** and **reliable** way, or to address them to the correct person
- **Self learner** with a passion for mentoring and training people
- Great communities lover and participant, open source contributor

Certifications

- **Linux Foundation Certified Systems Administrator**

Talks

TALKS/WORKSHOPS/WRITINGS

- **Practical Typeclasses** @ JUG MiTo (Italian)
- **Event Sourcing: Easy HA and Scaling with Akka Persistence** @ Codemotion (Italian)
- **SempCLIfy your life with Scala CLI** @ Scala Milano Meetup (Italian)
- **Personal Blog**

Education

University of Pavia

Pavia, Italy

BACHELOR'S DEGREE IN PHYSICS

2008 - 2016

- Thesis Title: **Entropic sampling in spin systems**
- Developed code for numerical simulation of high-interacting spin systems in Potts' model