

Dimitar Georgiev

Software Engineer

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Summary

Software engineer with experience in multiple roles and technologies, currently focused in the area of typed functional programming. Has delivered features and services of non-trivial complexity in accordance with business requirements and without need of technical guidance.

Has delivered and operated production systems based on a purely functional architecture.

Solid working knowledge of the purely functional subset of Scala, the typeclass hierarchy and surrounding technologies built on top of the scalaz / cats and fs2 libraries.

Vast experience with server-side programming, HTTP, the JVM platform. Working knowledge of cloud platforms, infrastructure as code tools, message-oriented middleware, continuous delivery tools, and monitoring / alerting tools. Working knowledge of SQL.

Basic experience with Haskell. Understanding of basic category-theoretical concepts.

Has delivered successfully for a period of two years working remotely within a distributed team.

Work experience

Software engineer

07.2018 - 08.2020

OVO Energy / Droxid Ltd.

I was commissioned to work with the <https://www.boostpower.co.uk/> team, which provides Ovo Energy's smart pay-as-you-go gas & electric offering. As a backend engineer on that team, I was responsible for architecture, design, development, infrastructure provisioning, monitoring, operation and incident response across a multitude of services. The team utilises purely functional architecture to deliver robust solutions within limited timescales and resources, and has a strong focus on automation of the whole development lifecycle, monitoring and owning the software once delivered in production.

The majority of the services are implemented in Scala utilising the cats, fs2, http4s, fs2-kafka, doobie, and other fs2-backed libraries. The software runs on GCP / GKE and AWS and its infrastructure is provisioned as code. Because of the constant flow of new product requirements, the team deploys changes to production multiple times per day.

Software architect / Technical lead / Software engineer

02.2013 - 06.2018

Novarto LTD

Novarto Ltd. is a SAP CRM and E-Commerce Consultancy based in Bulgaria. As an architect, tech lead and developer in the company, I was involved in collaborating with customers and partners, technology assessment, constraint identification, high level design, development, quality assurance, release engineering, development operations, production support, serving as technical lead on a team, and mentoring. My main focus was in the area of building E-Commerce and bespoke applications on top of the JVM platform, using proprietary as well as open-source technologies.

Expert Developer (last position held)

02.2008 - 02.2013

SAP Labs Bulgaria

My responsibilities at SAP's Bulgaria R&D centre have included implementation, architecture, design, quality assurance, user acceptance testing, continuous processes improvement, and mentoring. My main focus areas were Enterprise Application Integration tooling (SOAP, SCDL, OSGI); Java EE tooling; business processes intelligence.

Key Skills

- Expertise in typed, purely functional programming. Utilising the type system in order to arrive at robust code
- Developing, provisioning and continuously operating software in production
- Problem analysis and breakdown, constraints identification, assessment of viable technology stacks
- Arrival at and evolving systems towards clean, minimal, robust designs
- Property-based testing; unit, integration and system testing
- Build, Infrastructure and release automation
- Monitoring, performance measurement and optimisation
- Load Testing
- Good communication skills; Interfacing and negotiating with customers

Technologies

- Scala - 7 years of experience
- Java and JVM platform - 12 years of experience
- Solid understanding of the cats library and the typeclass hierarchy
- cats-effect, fs2, http4s, fs2-kafka / avro / vulcan, doobie, circe, refined, and various others
- working knowledge of spray and akka-http; experience with Netty, with focus on HTTP and h2 protocol
- ScalaTest, Scalacheck, weaver-test, JUnit
- PostgreSQL / MySQL / Google Cloud SQL
- Google Cloud Platform, Google Kubernetes Engine, AWS, AWS Lambda
- Terraform; Helm
- InfluxDB; Grafana; DataDog
- CI tools - SBT, Gradle, Maven, CircleCI, Jenkins, Travis, GoCD. Vast experience setting up and maintaining builds of high complexity, writing custom build plugins, etc.
- Load testing - h2load, tsung, Gatling
- Java Mission Control; JMH
- Preliminary experience with Haskell
- Others - functionaljava, functionaljava-quickcheck; RxJava; EcmaScript 6, Typescript, Flow.js; Immutable.js; React.js; Kotlin

Open source projects

<https://github.com/dimitarg/weaver-test-extra>

A minimal purely-functional API for authoring tests using `weaver-test`

<https://github.com/novarto-oss/sane-dbc>

A principled library for interacting with RDBMS in Java in a robust manner, while reducing boilerplate. Used in production.

<https://github.com/novarto-oss/jackson-module-fj>

Java project that adds Jackson serialization / deserialisation support for FunctionalJava immutable data types. Comes with property-based tests to verify correctness. Used in production

<https://github.com/novarto-oss/java-build-conventions>

Gradle tooling to eliminate boilerplate in Java builds.

Articles

"Purely functional testing is Scala"

Sept. 2020

<https://dimitarg.github.io/pure-testing-scala/>

Outlines a ready-to-use approach for authoring tests in Scala in a referentially transparent manner, and explores advantages and consequences to it

Proprietary projects (shortlisted)

Boost Winter Wallet

I was part of the team that created Boost Winter Wallet, which helps pay-as-you-go customers to save funds to cope with increased energy usage during winter.

<https://www.thedrummarketingawards.com/the-drum-marketing-awards-2020/new-product-or-service-launch-strategy-of-the-year/boost-winter-wallet>

Cletty http/2 server

<https://github.com/novarto-oss/cletty>

I co-authored a HTTP 1/1 and HTTP/2 server and client on top of <https://netty.io/>. Features include Java service API, Scala service API, HTTP client API, WebSocket client API, static file server with memory cache, off-heap buffer support, SSL termination via BoringSSL, Docker support, Gradle tooling.

Product mastering / Product catalog modeling / Online product catalog system

Dates: 2014 - Jun 2018

An ACID system for master data and product / catalog modeling with support for data inheritance, configurable products and an extensible rules engine. Can publish data to multiple sources. Can cope with vast volumes of data. Can be deployed on-premise, in the cloud or utilizing a hybrid model.

Various B2B and B2C E-Commerce implementations for SMEs as well as Fortune 500 customers

Dates: 2013 - Jun 2018

I've worked on various E-Commerce implementations, usually with complex integration requirements. Some of these projects utilize platforms from the SAP portfolio, such as Hybris, WCEM and ISA; others are bespoke solutions integrated with existing backend systems.

Education, training and certification

Oracle Certified Java Professional

Cambridge ESOL Certificate in Advanced English

Functional Programming Principles in Scala – Accomplishment with Distinction

Baba Tonka Secondary School of Mathematics, Ruse, Bulgaria, 2006

