

Lukasz Tymoszczuk

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I'm a Scala / Data Engineer with over eleven years' experience. I inspire and help teams in being productive. I love mathematics, algorithms and problem-solving. I'm a founder of scalaworkshop.com.

I'm goal oriented, proactive and able to work remotely, with outstanding communications skills.

My business experience: Legal (ISDA, initial margin documentation), Machine Learning (Apache Spark, Scala, Python, Docker), Finance and Banking (Risk Management FRTB, MIFID, Basel), Energy industry (Energy price forecasting, IoT), Public sector (Automatic recruitment system), Aviation.

My after-work activities:

- My homepage and blog: lukastymo.com
- Scala course: scalaworkshop.com
- stackoverflow.com/users/574799/smas (top 2%)
- codeforces.com/profile/smas

Technical experience:

- Scala (Functional Programming), Java (SOLID, OO), JVM
- Big Data: Apache Spark, HDFS, Apache Hive, ETL, SQL, Docker
- Machine Learning, Python / Jupyter Notebook
- DevOps & Cloud: AWS, Ansible, Terraform, Grafana, Docker and Kubernetes, ELK
- Distributed Systems: Akka, Microservices, NoSQL, The Twelve-Factor App
- Agile Development practices: CI/CD, TDD, Pair Programming, Code Review

Education

- M.S., MBA, University of Illinois Urbana-Champaign, 2019 - present, USA
- M.S., Computer Science, Jagiellonian University, 2005 - 2010, Krakow, Poland

Senior Scala Developer (contract)

Linklaters / Nakhoda November 2018 – December 2019, London, UK

- We worked on the new way of negotiating the International Swaps and Derivatives Association (ISDA) documentation. nakhoda.ai

Tech stack and activities:

- Functional Scala, Cats, Monix Tasks, Doobie
- PostgreSQL
- TDD, Automated tests
- Kubernetes, Docker, On-premise Cloud
- REST, API versioning, Swagger, Database migration
- I worked closely with our DevOps team as a part of the release rota (releases and hotfixes)

Data Engineer (contract)

Royal Mail / GBI May 2018 – November 2018, London, UK

- I was part of Data Engineering team. I developed Data Platform and data algorithms on it which transformed the whole business and allowed releasing multiple great products. I advised and recommended best practices in Scala, Agile and Software Development, Architecture.
- I implemented opt-1, opt-2 and opt-3 heuristic to solve VRP (Vehicle routing problem). This algorithm was essential for Royal Mail business, as it is impractical to solve this task manually. Thanks to this algorithm another project "Late Arrival Packages" was able to kick off.

- I developed parcel delivery project which processed terabytes of data in a few hours. I was responsible for productionizing (porting from POC Python code to Scala) and implemented new features for Machine Learning modules: Train, Test, Post-process and Formatter. This project was able to predict 90% of all packages UK-wide with 2-hour precision.

Tech stack:

- Scala (main production language), Python (PoC)
- Apache Spark (Spark SQL), Yarn, HDFS, Linux, Apache Zeppelin,
- TDD, Kubernetes, Docker, Akka-HTTP, MongoDB, Cats
- On-premise Cloud
- REST, Swagger, Gatling

Big Data Developer (contract)

IHS Markit / Risk Factor Utility (FRTB) September 2017 – May 2018, London, UK

- I productionized Spark application on AWS (S3, EC2, EMR) with strong automatization requirement via Ansible and CloudFormation. Due to this change deployment across environments was consistent and automated, so everybody on the team could do this by clicking one button in Jenkins.
- I was part of the team which implemented very popular, and in-demand project required transforming the significant amount of raw market data into FRTB-compliant risk factors and scenarios by using DSL language for risk modelling.
- I helped developing functional Scala project, which the main module was a custom DSL language used by Quants. Thanks to this feature, our quants were able to produce FRTB solutions presented for multiple banks.

Tech stack:

- Scala, Cats, Monix Tasks
- Apache Spark, Hadoop, Cassandra
- AWS (EC2, S3), Cloud Computing, EMR, Yarn
- Apache Zeppelin, Big Data, Helping BAs with notebooks written in Python
- CI / CD, Ansible, Git workflow
- TDD, Code review, Scrum team
- REST, Swagger
- Agile: Scrum

Software Engineer (contract)

OVO Energy / vCharge April 2017 – September 2017, London, UK

- vCharge was a startup acquired by Ovo Energy. The idea was to control storage heaters installed in people homes. I worked with the owner, who was located in the US (~ daily one-to-one online meetings). I had a high impact on stakeholders. Throughout a couple of months, I was the only Scala developer.
- I built a module to forecasting Energy prices using the Dijkstra algorithm and mathematical model created by Data Scientists. It allowed buying energy cheaper and “store” in the customers’ storage heaters.

Tech Stack:

- Scala, Akka, Play Framework, Lagom Framework
- CQRS / Event Sourcing, Cassandra
- Python (PoC)
- Microservices

- ScalaTest, Property-based testing

Scala Consultant (contract)

Civil Service Resourcing (Valtech) / Faststream, Fasttrack February 2016 – April 2017, London, UK

- I developed an auto-grader module inside the web-based application deployed on HMRC's Tax Platform. The module allowed to assess and send emails to 120,000 candidates in a day-scale vs month-scale in the legacy system.

Tech stack:

- Scala and functional design
- Play framework, RESTful API, MongoDB
- Microservices, Kibana, Grafana
- Cucumber, ScalaTest, Property-based testing

Senior Software Engineer

Monitise / FinKit platform, Matm August 2013 – February 2016, London, UK

- After a year of developing OSGI, Java platform for multiple financial institutions I was moved to brand new cloud platform with Scala, Akka, Microservice architectures: FinKit.

Tech stack:

- Scala, Akka
- REST: Spray, Swagger (generator)
- IBM Bluemix, NoSQL: Cloudant, AMQP protocol
- Java 6 / 7, Apache Camel
- Modularization: OSGi, Messaging: JMS
- REST, SOAP, SOA
- TDD, BDD, Continuous Delivery, Continuous Integration

Full stack Java Developer

Sabre Holdings November 2010 – August 2013, Krakow, Poland

Full stack Java Developer

ComArch June 2008 – November 2010, Krakow, Poland