Diogo Ferreira

Software Engineer

Diogo Daniel Soares Ferreira
27 years old
Belgium
Fluent in Portuguese and English

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Programming Languages

Java ★★★★★
Python ★★★★★
Scala ★★★★★
Kotlin ★★★★★
C/C++ ★
Elixir ★
R ★

Hi! I'm Diogo Ferreira and I am a Software Engineer with +4 years of experience, mainly in event-driven architectures, working with technologies such as Java, Kotlin, Scala, Quarkus, Spring, Flink, Akka, Kafka, Relational (PostgreSQL) and Non-relational Databases (Elasticsearch). I regularly blog about programming in diogodanielsoaresferreira.github.io. I am also passionate about books, music, nature and sports, being scout leader in Portuguese Scouts (CNE) and an avid runner, having run multiple half-marathons.

Experience

December 2023 -

Software Engineer

Timefold - Remote

Developing a platform-as-a-service to schedule planning optimization jobs, such as employee shift scheduling, field service routing or vehicle routing, using Java with Quarkus framework, but also Kubernetes and various cloud providers, such as AWS, Azure or Google Cloud.

November 2021 – November 2023

Software Engineer

Blip - Remote

Working as part of Flutter Entertainment Group, the world's leading online sports betting and gaming operator, for brands such as Betfair, PaddyPower and Fanduel. Using Java, Kotlin and Scala with Spring, Flink and Akka frameworks to build and monitor event-driven microservices.

September 2019 – November 2021

Software Engineer

Talkdesk - Remote

Working for a unicorn that is the global cloud contact center leader.

Using Java with Quarkus framework and Apache Camel to build and monitor data-driven services. Build a pipeline that handles on average 4 million events daily.

March 2019 – August 2019

Student Researcher

Instituto de Telecomunicações – Aveiro

Study and development of machine learning models for time series prediction metrics in 5G slices, using Deep Learning techniques. Design and implementation of a distributed real-time architecture to forecast anomalies and act on the network to improve the quality of service.

April 2018 – September 2018

Undergraduate Student Researcher

Instituto de Telecomunicações – Aveiro

Study of intelligence mechanisms in the core of a 5G network for monitoring, optimization and security. The project was developed in the Network Architectures and Protocols (NAP) group, having as mentor Prof. Dr. Susana Sargento.

October 2017 – March de 2018

Undergraduate Student Researcher

Instituto de Telecomunicações – Aveiro

Continuation of a project made in a third-year course ("Project in Informatics Engineering"), in partnership with *Altice Labs*, having as main goal to develop a platform with support for management, monitoring, alerts and actuation over the data of a city, in real-time (*smart city*).

July 2016 – August 2016

Summer Internship at Aptoide

Lisboa

Design and build a software with the purpose of finding apps on the Aptoide Store with explicit content (nudity) using Machine Learning techniques, with accuracy over 95%.

Education

2014 -2019   **Integrated MSc in Computer and Telematics Engineering**

Aveiro University

Finished with a grade of **18.21**, being the best student of the course finishing in 2018/2019, having a dissertation grade of **20**/20 and having received a merit award.

2011 - 2014   **Science and Technology course (10th – 12th grades)**

Gafanha da Nazaré High School

Finished with an average grade of **17**.

Publications

Prediction of Low Accessibility in 4G Networks
Diogo Ferreira, Carlos Senna, Paulo Salvador, Luís Cortesão, Cristina Pires, Rui Pedro, Susana Sargento
Annals of Telecommunications, 2021
DOI: 10.1007/s12243-021-00849-9

A Forecasting Approach to Improve Control and Management for 5G Networks
Diogo Ferreira, André Braga Reis, Carlos Senna, Susana Sargento
IEEE Transactions on Network and Service Management, February, 2021
DOI: 10.1109/TNSM.2021.3056222

Distributed Real-time Forecasting Framework for IoT Network and Service Management
Diogo Ferreira, Carlos Senna, Susana Sargento
IEEE/IFIP Symposium Network Operations and Management (NOMS), Budapest, Hungary, April, 2020
DOI: 10.1109/NOMS47738.2020.9110456

Root Cause Analysis of Reduced Acessibility in 4G Networks
Diogo Ferreira, Carlos Senna, Paulo Salvador, Luís Cortesão, Cristina Pires, Rui Pedro, Susana Sargento
Machine Learning for Networking. MLN 2019. Lecture Notes in Computer Science, vol 12081. Springer, Cham
DOI: 10.1007/978-3-030-45778-5_9

Breaking Text-Based CAPTCHA with Sparse Convolutional Neural Networks
Diogo Daniel Ferreira, Luís Leira, Petya Mihaylova, Petia Georgieva
IbPRIA 2019: Pattern Recognition and Image Analysis pp 404-415
DOI: 10.1007/978-3-030-31321-0_35

Major relevant skills

- Experience using **Akka actors**, **Akka streams** and **Flink** to enable fast distributed processing of events
- Experience using **Apache Camel** to implement applications using Enterprise Integration Patterns
- Experience in event-driven architectures using micro-services and associated tools, such as **Kafka** or RabbitMQ (message queues), distributed databases and similar tools
- Experience in usage of web frameworks, such as **Quarkus**, **Spring Boot,** Django, Phoenix/Elixir or Falcon
- Experience using **Kubernetes** and **Docker** for automating deployment, scaling, and management of containerized applications
- Experience using **Java Reactive Libraries** to build data-driven microservices using test-driven methodologies
- Experience using **Elasticsearch** as operational database for text-oriented and time-series features
- Experience in the implementation and testing of **NLP** algorithms, such as TF-IDF, LDA, word embeddings, sentence embeddings, document similarity and word extraction
- Experience in problem resolution using **Machine Learning techniques** and state-of-the-art **Deep Learning** techniques, with frameworks like PyTorch, Keras or Scikit Learn
- Experience in small and medium project management in a multidisciplinary team using **Agile** techniques
- Experience in **data analysis** problems using data manipulation and visualization tools such as NumPy, SciPy, Matplotlib, Jupyter, Pandas and similar
- Experience in **MLOps** tools, such as MLFlow, DVC, Sagemaker, and others

Social skills

- Scout leader (Corpo Nacional de Escutas) for 6 years, and in the 12 years prior I was also team guide and secretary/treasurer
- Volunteer in *Conta Connosco* project: a *pro bono* initiative where volunteers share their professional experiences with the aim of helping unemployed or young people in their careers
- Instructor in *Data Science Academy* from *Talkdesk*, in which I taught the *Deep Learning* module
- Part of the juvenile choral group at the Oliveira do Bairro
- I also did sports since I was 5 years old, playing Football/Futsal in several teams until I was 18 years being team captain on several occasions

All these experiences brought me bigger sense of responsibility, leadership, team spirit, punctuality and assiduousness.

Interests

In my free time I love doing online courses. Here are some that I did:

- Akka Essentials with Scala
- Akka Streams with Scala
- Think Like a Leader
- Deployment of Machine Learning Models
- The Ultimate Hands-On Hadoop – Tame Your Big Data! – Udemy
- Machine Learning – Coursera

Beyond the digital world, I am also passionate about running, having participated in multiple half marathons in the past years. I also enjoy music, having attended several music summer festivals.

In my free time I also enjoy writing in online platforms (diogodanielsoaresferreira.github.io. Medium, Dev.to) about software engineering, reading books and attend events related to informatics, technology and programing, like NDC, FOSDEM, JNation, DSPT Day, National Meeting of Informatic Engineering Students, TechDays, Talk a Bit, DSPT meetups, among others.