Nico D'Cotta
Backend Software Engineer

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EXPERIENCE

11/23 – today
Engineer III (Security), then Senior Engineer (Payments)

Senior Backend Software Engineer, at Monzo Bank

Worked both on Payments as building **products** for retail customers, and in Security in an **SRE**-heavy role with wide scope.

Owned secret-management, public-key infrastructure, and preventive and detective security controls (eg. around **intrusion, exfiltration, DDoS**, etc).

Maintained critical zero-downtime infrastructure such as **Kubernetes**, **cloud networking**, and **sensitive key material** management.

06/20 – 11/23
part-time, then Engineer, then Senior Engineer

Senior Backend Software Engineer, at Blockchain.com

Owned several **JVM** (mainly **Kotlin**) real-time financial services critical for business operation and central to to user experience and transaction auditing; like ledger-keeping/accounting and indicative pricing.

Designed and scaled up **stateful distributed** systems with an event-driven architecture.

Reviewed systems' architecture designs and software development methods to cultivate **sustainable engineering practices** and achieve **operational excellence** within the wider company.

06/19 – 10/19
intern

Software Engineer, at Emit, Inc.

Four-person startup with its own smartwatch aiming to provide time-analytics to institutional customers.

Provided real-time insights on customer data by developing data processing pipelines and libraries in **Kotlin** and **Python** on top of serverless tech on **AWS (Lambda, DynamoDB, ElasticSearch)**.

EDUCATION

2018 – 2022

MEng Computer Science – First Class Honours, at Imperial College London

Focus on Software Engineering, Distributed Systems, Network and Computer Security, Systems and Data Scalability, Logic-based AI, Type Systems for Programming Languages, Simulation & Modelling.

Additional Business School modules include Project Management, Finance & Financial Markets, and Business Strategy.

2015-2018

French Baccalaureate (S-SI) – Highest Honours, at French Lycée of Madrid

High-school diploma with Engineering Sciences with Further Maths specialisations.

PROJECTS *see my full portfolio at nico.dcotta.com*

`Nomad, NixOS, Golang`

Self-hosted infrastructure nico.dcotta.com

A HA self-hosted cluster with all the features you can expect from an enterprise-grade platform, including container orchestration, service discovery, a service mesh, a distributed filesystem, etc.

`AWS (Lambda, DynamoDB, EC2), Kotlin, VueJS`

DJStreamr, collaborative streaming service for DJs djstreamr.com

Music synchronisation protocol implemented as a webapp with an event-driven platform architecture which leverages serverless technology.

`Elixir, Paxos`

Multi-Paxos implementation cottand/multi-paxos

Implementation of a variation of the Paxos consensus algorithm (comparable to Raft), as specified in the paper *Paxos Made Moderately Complex*.

`Kotlin, JVM bytecode, ARM11 assembly`

WACC, multiplatform compiler cottand/WACC

Multiplatform compiler for WACC (a toy language) to JVM bytecode and ARM11 64-byte assembly that supports basic constructs like stack-allocated primitives, and heap-allocated arrays and pairs.

TECHNOLOGIES

Proficient in Go, JVM (Kotlin, Java), Gradle, Nix + NixOS

Experience with Python, C, Haskell, Typescript, Elixir

Nomad, Kubernetes, Consul, Vault, Terraform

AWS (IAM, EC2, S3, WAF + Shield, DynamoDB, etc.)

gRPC + protobufs, Kafka, Akka, PostgreSQL, Redis, Cassandra, APM, Docker, React

Object-oriented, Functional, Actor-oriented, and Procedural programming.

HOBBIES   I enjoy gardening as well as kitesurfing and rock climbing

LANGUAGES

English - bilingual
Spanish - native
French - bilingual
Portuguese - advanced level

SKILLS + FEEDBACK

"Pleasant to work with"
"Aware of product quality"
"Knows which battles to pick"
I can google well!