

# J. Diogo Fernandes C.

SENIOR SOFTWARE ENGINEER

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## Experience

### NOVA Wealth (Previously Octopus Wealth)

London, UK

SENIOR SOFTWARE ENGINEER

Jul 2021 - Oct 2024

- Scaling up tech from the ground up to automate the financial advice process.
- Co-architected and co-led the development of an asset ledger system managing ~£400M of AUM:
  - First steps of the mission of the team to automate the manual leg work of financial advice.
  - Key for reducing operations team manual load of cross system data entry by saving *days* per client onboarding.
  - Automated business logic validation saving up to *8 hours* of manual financial planner validation time per case.
  - Built FCA compliant auditing with support for fast historic search saving compliance team *hours* of work per case.
- Designed and built a deep integration between Salesforce and internal API services:
  - Allow Salesforce developers to integrate automatically with scoped APIs via familiar flow-based workflows in SF.
  - gRPC integration with the Salesforce event bus to support near real-time data updates to and from Salesforce.
  - Celery based async architecture allowing developers to automate async workflows that were previously manual.
  - Key for (near) frictionless bidirectional data updates between Salesforce and internal services.
  - Managing state consistency between Salesforce and external Postgres tables.
- Technical lead for a migration to an AWS Cognito, OpenID Connect based core authentication system:
  - Support for both internal Salesforce federated login and external client facing products.
  - Migrated legacy customer portal login with SMS MFA support reducing customer login support queries by over 90%.
  - Allowed both internal users and clients respective access to API services and AWS resources via OIDC token exchange.
- Re-worked the version control and CI/CD process from the ground up to support a growing team of developers:
  - Scaled Heroku CI/CD from a simple "push to master" single prod environment to a multi-env docker-based pipeline.
  - Supported by Github Actions for CI to ensure consistent and reproducible builds.
  - Dev environment with matching mirror Salesforce sandbox, async and AWS infrastructure.
  - Enabled developer self-serve of dedicated (dev) environments for testing with mirror SF sandbox and dedicated infra.
- Built a caching layer from the ground up updating in near real-time to support legacy API data retrieval on customer portal reducing page load times by an average of 50% and up to 180% for certain data heavy customers.

### Octopus Investments - Labs

London, UK

SOFTWARE ENGINEER

Dec 2019 - Jul 2021

- Migrated Octopus Investments client SSO to OpenID Connect with IdentityServer4.
- Built "aggregator" microservice in to service legacy cross system investment portfolios for +10,000 clients in milliseconds.
- Migrated infrastructure & DevOps from GCP to Azure with fully distributed log tracing:
  - Built infrastructure-as-code, automated, containerised CI, and zero downtime CD pipelines.
  - Stack included Azure App Service, Azure Container Registry & App Insights with Opencensus.

### Teradata

London, UK/Madrid, Spain

DATA ENGINEER

Sept 2018 - Nov 2019

- Improved and maintained Kafka & Solr based, automated document processing system for a leading Spanish bank processing more than 10,000 documents per hour. Maintained Java and Python based data processing microservices.

### Fresh Relevance

Southampton, UK

BACKEND SOFTWARE DEVELOPER INTERN - UNIVERSITY 2ND YEAR SUMMER INTERNSHIP

Jun 2017 - Sept 2017

### Virgin Media WiFi (Previously Arqiva WiFi)

Hemel Hempstead, UK

SOFTWARE DEVELOPER INTERN - BIG DATA & MASS INGEST FOCUS - UNIVERSITY 1ST YEAR SUMMER INTERNSHIP

Jul 2016 - Sept 2016

## Education

### University of Southampton

Southampton, UK

BSc IN COMPUTER SCIENCE - FIRST CLASS HONOURS

Sept. 2015 - June 2018

- **Dissertation research project:**
  - Automating the fact-checking of interesting, relevant statements made by MPs on Twitter with SVM classifiers through automated NLP feature extraction and automated crowdsourcing.

# Skills

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## PROGRAMMING

- **Languages:** Python, Java, Javascript
- **Frameworks:** Flask, Django, FastAPI, Spring Boot, React
- **AI:** Cursor, Langchain, OpenAI SDK, LlamaIndex, Ollama

## LANGUAGES

- English - Bilingual proficiency
- Portuguese - Native proficiency
- Spanish - Professional working proficiency

## INFRASTRUCTURE

- **Databases:** Postgres, Redis, DynamoDB, S3, MongoDB
- **DevOps:** AWS, Heroku, Github Actions, Docker
- Celery, RabbitMQ, gRPC, Elasticsearch, familiar with Kafka
- Salesforce (integration & config)

## PROFESSIONAL

- Report writing & LaTeX
- Presentation skills

# Interests

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## Travel

- I'm a big believer in living life to the fullest and experiencing new things
- Whilst travelling the last 8 months I found my happiest moments road tripping through Japan and Thailand on a motorbike

## Ocean life & Diving

- Something I fell in love with whilst travelling the last 8 months
- I've been lucky to have seen some majestic creatures but still in search of seeing a whale shark

## Simracing

- I enjoy casual sessions of iRacing, the top simracing simulator in the world where real world drivers like Max Verstappen drive, both competitively and for fun
- I also like to join in on iRacing special events, typically endurance events mimicking the real world calendar like Spa 24h or Le Mans 24h

## Snowboarding

- Something I've only recently picked up, loved and (slowly) getting better at

# References

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Available upon request.