

# Callum Wilkinson

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## PROFILE

Passionate programmer, driven by enjoyment of problem solving to overcome logical challenges. I have a thirst for knowledge and desire to continually learn more to add to my development skill-set. I strive to deliver top class software through a holistic view of the development process based on my prior development and test experience.

## KEY SKILLS

### **Python** – *6 Years, 3 Years In Industry*

Initially used as a tool for modelling mathematical and physical problems at university. Extensive knowledge of Python during 1 year of use as a software test engineer and 2 years as a Python Developer/Developer In Test. Proficient with versions 2.6, 2.7, 3.6, 3.7.

Key Python Technologies:

- Celery
- Redis
- Integrating with AWS through Boto
- Flask / Flask-Admin
- SQLAlchemy (expression and ORM API)
- Other: BDD test integration with Behave (similar to Gherkin), Selenium, Requests, Django

### **JavaScript** – *3 Years In Industry*

Initially self-taught by completing project book The Big Nerd Ranch's Project Book 'Front-End Web Development'. Applied principles from this book to create a library of JavaScript and jQuery functions to adapt a front-end test suite to become cross-browser compatible. Used as an ad hoc test tool for manual testing as a Developer In Test. Maintained a microservice with a react front end as a Python Developer. Wrote new front end in Vue.js at arts alliance media.

### **SQL** – *3 Years In Industry*

Initially learnt at PanIntelligence through company training course. Used on a daily basis whilst working at PanIntelligence as part of testing business intelligence software. Furthered these skills when working as Python Developer maintaining data-oriented microservices. Wrote high performance SQL to optimise a web applications and functions, minimise the number of queries executed and improve user experience when using the software. Knowledge of redshift and constructing data warehouses.

### **Docker** – *3 Years In Industry*

Containerised applications, test runners and python interpreters. Used to allow reproducible infrastructure for both testing and development. Involved bash scripting, creating Make files, and creating linux environments in which to run software. Strong docker-compose skills.

### **Cloud Infrastructure: AWS/GCP** – *1 Year In Industry*

Built and deployed web applications and microservices to AWS and GCP. Knowledgeable working with proprietary amazon technologies such as: S3, RDS, EC2, Redshift, SES and route53 as well as their GCP equivalents (GCE, GKE, SQL, Storage).

## **Microservices** – *2 Years In Industry*

Built cloud microservices for AWS, from design to deployment. Microservices integrated through messaging with rabbitMQ and celery, or a RESTful web API. The microservices included web applications with front ends for user interaction, a data warehouse with ETL code, microservices for extracting/handling data and microservices for delivering data/communicating with applications through an API.

## **Kubernetes** – *6 Months In Industry*

Managed scalable cloud microservices deployments orchestrated in GCP using kubernetes. Used both for production and test environments.

## **General Software Development**

Experienced With:

- Practiced agile development including daily standups in every role
- Communication with product managers to define acceptance criteria and meet business needs
- Git / GitHub
- Atlassian Stack: Confluence, Jira, HipChat etc.
- Continuous Integration / Continuous Delivery (With Jenkins / Semaphore CI)
- Web Application Security / Penetration Testing

## EXPERIENCE

### **QA Engineer** – *Root Capital*

OCT 2018 – PRESENT, LONDON

Took a leading role in the project to fix / release the new microservices-based product rewrite. Work mainly centred around writing tools to load test / stress the product, as well as managing the cloud deployments and infrastructure for the product. By implementing horizontal scaling of the microservices when required we increased the number of supported users 2000%. Took part in highlighting/redesigning problematic areas of the product. This role involved making decisions about how to advance the project reporting to the senior leadership team directly on a weekly basis. We were given an extremely harsh deadline and by collective team effort we achieved a full functional and successful release that met all NFRs on the target date.

### **Python Developer / SDET** – *Arts Alliance Media*

JUL 2017 – OCT 2018, LONDON

Arts Alliance Media are the world leader in cinema technology, implementing the next generation of cloud based cinema software. The software I worked on is used in most CineWorlds, Vues, AMC, Wanda, CineMark, Odeon and more cinemas around the world. The large scale and caliber of the customers taught me to handle the pressure and expected level of excellence customers of this magnitude expect. I work in a hybrid role between Python Developer (Mainly) and Developer In Test. Worked on the migration to cloud microservices. Implemented tailored automation suites for each service and owned the automation design process for my team's services, creating bespoke tools for web and rabbitMQ messaging API level testing, and using selenium for end to end testing web services with a front end. Lead the platform level design of staging environment. Took part in the design, writing and implementation of microservice, including the integration and responsibility of each. Practiced TDD when building each microservice. The microservices included web

applications with front ends for user interaction (with flask or react), a platform level front end written in vue.js a data warehouse with ETL code, microservices for extracting/handling data, and microservices for delivering data/communicating with applications through an API. Ran a web application security workshop.

### **Software Test Engineer (Remote) – PanIntelligence**

SEP 2017 – FEB 2018, REMOTE

Was hired as a remote engineer to help maintain automation suites and build test infrastructure.

### **Software Test Engineer – PanIntelligence**

MAY 2016 – JUL 2017, LEEDS

PanIntelligence are an up and coming, rapidly growing business intelligence company. Ideal role and learning environment for someone from outside computer science background. I quickly developed a working knowledge of development in an agile environment, and pushed myself beyond engineering tests to pick up development tasks as they became available. A highlight at PanIntelligence was rewriting a library of methods for the selenium using Javascript and Python objects representing common entities in the web application with CSS selectors at every level, enabling the test framework to be run across all major browsers without having to write duplicate code for each browser. A side effect was that this allowed the tests to be properly executed in parallel using docker as part of a Jenkins build process, decreasing the total test run time from over 4 hours to approximately 15 minutes and integrating test into the continuous delivery process.

## **EDUCATION**

### **University of York – BSc (hons) Physics with Astrophysics**

SEP 2013 – MAY 2016

Developed problem solving skills using logical approaches. Initially began programming, using Python to solve physical problems and model data. Completed two modules on programming to solve mathematical and physical problems, achieving a first in both (78% and 76%). Gained knowledge of statistical and complex mathematics. Achieved a first in third-year project (71%) which involved processing a vast amount of data, turning multiple CSV files containing over 50,000 data points into useful analysis of cepheid variable stars.

### **Woodkirk Academy – A Levels and GCSEs**

GCE A-level Physics (A), GCE A-level Chemistry (A), GCE A-level Biology (A), GCE AS-level Mathematics (A). Completed 10 GCSEs grade A\* or A, including English Language and Literature.

## **GENERAL SKILLS**

### **Mathematical Proficiency**

Vast experience solving complex and detailed problems using mathematical principles. Achieved a gold award in the UKMT Mathematics Challenge.

### **Computers**

Holistic approach to computing, maintaining and building a PC from components.

Experienced working on personal and business Linux, Windows and Apple OSX systems.

Experience using image manipulation software such as imageJ for dissertation work.

## **Public Speaking And Communication**

Confident at public speaking. Achieved 82% and 77% in assessed presentations at conferences while at university. Took a leading role within a group project team to efficiently gather large volumes of data for the project. Confident voicing ideas while working in an agile environment during design/discussion meetings and daily stand ups.

## **ABOUT ME**

Passionate about programming, I enjoy reading about new technologies and take an interest in development culture. Completed several books on development to further my knowledge, some of my favourites include: Clean Code by Robert Martin, Front-End Web Development Book by Aquino and Gandee, Learn Python the Hard Way by Zed A Shaw, HTML & CSS and JavaScript & JQuery by Jon Duckett, Fluent Python by Luciano Ramalho.

I enjoy reading for pleasure, fiction mostly. I enjoy sci-fi, thrillers, and modern classics. My favourite novels are Slaughterhouse-5 by Kurt Vonnegut and Dune by Frank Herbert.

*References Available On Request*