**Callaghan Ebojoh**

**Software Development Engineer**

**London**

**07449319535**

**Summary**

A recent analytical, team-oriented, and organized graduate with under 4 years of experience in data engineering, software application development, and cyber-security. Skilled in requirement estimation, simplification, data manipulation, and database management. Strong interpersonal skills and problem-solving focus, with a track record of building microservices and scalable software. Proficient in OOP programming, design patterns, software development tools and various programming languages. I enjoy working with agile methodologies and heavily reflect a self-motivated learning mindset. Strong advocate for clean, testable code. I enjoy developing well architected systems.

**Professional Experience**

**09/2023- Present**

**Freelance Android Reverse Engineer**

Participation in vulnerability disclosure programs (VDP) through HackerOne to assist organizations(MercardoLibre) improve their security posture

Responsible for auditing and performing code reviews vulnerability in android applications obtained from Google Play Store per VDP requirements.

Utilizing tools such as HTTPS proxying and Wireshark to aid in the development of exploits of vulnerabilities discovered.

**06/2022- 06/2023**

**Security Engineer Intern at Amazon Web Services - London**

Designed and implemented a security tooling platform using Java (unifying internal-facing and external-facing security tools. My focus was on backend engineering within internal and external interfaces. I focused on developing reusable code and libraries.

* CLI – Developed an in-house CLI with state machines using **Jcommander and Stateless 4J frameworks.**
* Backend – Created Java Microservice to allow the installation of security tools, allowing pen-test setup time to be reduced and the creation to **AWS Lambda, AWS CDK, AWS Smithy Docker Engine API, AWS ECR, AWS Dynamo DB,AWS Step Functions)**

Managed the full software development application life cycle, utilizing agile methodologies and collaboration tools for requirements gathering and user story iterations.

Leveraged established design patterns and automated testing (unit and integration testing) using testing frameworks (**Junit**) to enhance functionality and maintain code quality.

Conducted analysis of existing internal tools and integrated external programming communities' technologies into the product.

Worked with a team of three to develop a security data lake using **Python, Kotlin/JS (React Components and AWS.**) in a cloud-based environment. This project was managed through continuous deployment services (**Gitlab**)

Worked with a team of security engineers to develop a proof-of-concept honeypot to emulate MYSQL honeypots via **Twisted & Wireshark**. This taught me important concepts of threat intelligence and the basics of malware analysis

Worked with a team of penetration testing engineers, to develop a security testing tool in **Python** to perform concurrency testing on **AWS Elasticache**. This improved security-testing speed by 90% and results in accurate testing of the scope item.

Took an active role in security incident response, actively utilized vulnerability testing platforms (**BurpSuite, Nmap**) to support team efforts to evaluate security services and provide efficient customer service response.

Exposure to principles of Fuzz Testing on a pen-test engagement by constructing fuzzing harnesses using **Rust** and other internal tools, to understand the principles of fuzzing, and learn more about fuzz testing, and how that’s deployed across Amazon.

**Junior Data Engineer at GingerBlack Analytics – London**

**09/2021 – 06/2022**

Built and automated serverless/container-based data pipelines using **AWS Lambda,Python SNS, Docker, and Fargate**, delivering data from diverse sources to **Snowflake** for a multi-client customer data platform. This supported backend engineering efforts.

Implemented SQL data migration framework with support of senior software engineers.

Developed BDD testing framework for seamless deployment of data products to non-technical audiences.

Leveraged **AWS CloudFormation** and **SAM** to deploy scalable **ETL** pipelines for a customer data platform, creating multiple CloudFormation stacks.

**Data Analyst at Abinbev– London**

**09/2020 – 09/2021**

Mentoring/ leading in the training analysts and other team members in (**R, Excel, PowerBI**). This improved my verbal communication skills. From this outreach and mentorship, I received positive feedback from my team.

Development of ETL dataflows using **PowerBI** and assisting business migration to PowerBI to enable unified data source view.

Development of discrete-event simulation model with **R** to model inbound calls from call centre and performed large-scale data analysis.

Built a proof-of-concept System Dynamics simulation model using Vensim PLE & Simantics involving the creation of Casual Loop Diagrams, Stock and Flow diagrams to aid understanding of beer consumer behaviour validated by discussion with domain experts.

**Junior Data Analyst (Apprenticeship) at Dentsu Aegis Network – London**

**09/2018 – 05/2020**

The development of data driven machine learning data solution and scripts (**R,Python,SQL,AWS,Google BigQuery**) around analysis of consumer journey using unsupervised learning techniques. This resulted in more granular insights and ability to target customers.

Developing SQL queries supporting ongoing projects in a high-pace environment using Bigquery for complex data analysis to a variety of clients

Created and deployed web crawlers, using a combination of frameworks (**CSS, Xpath, RSelenium, Rcrawler**) to gather unstructured and structured data using **AWS**

Translating complex quantitative statistical data into easy-to-understand insights for clients

**Education**

BSc Cyber Security, University of West London, London, United Kingdom, Expected 1st : Sep 2021- Nov 2023

Final Year Project: Virtual PLC Controller utilizing technologies (**Scala, Rust, Grpc**)

1. Developed a **GRPC API** with protocol buffers and token-bucket rate limiting (**ProtoBuf** and implemented security controls to mitigate threat vectors (**Rust**)
2. Developed an **agent-based simulation** using **Netlogo** (Logo DSL) and developed an extension with **Scala**.
3. Developed a self-hosted **Netlogo** Server (Java)
4. Utilized **Wireshark** to understand and decode the operations with the poorly documented Hubnet Protocol

Java Development Bootcamp (August 2023 – September 2023)

Development of a Spring Boot Full Stack Hospital Management Application with a team of five members asynchronously utilizing Spring Data JPA

1. Creating **REST** Endpoints for modelled entities
2. Utilizing docker compose to enable portability across deployment
3. Managed up to 4 members dealing with code review and merge requests.

**Technical Skills**

**Programming Languages: (**R, JVM languages (Java/Scala/ Kotlin, Python, Rust, JavaScript, Bash, Groovy, Maven, Gradle)

**Frameworks and Libraries Tools:** (Netlogo, GAMA, Verism PLE, Simantics, RStudio, VS Code, Docker , Docker Compose + Docker Swarm - containerisation)

**Messaging Brokers:** (ActiveMQ)

**Cyber Security Skills:** (Nmap, Burp Suite , OSINT, Wireshark, Android Debug Bridge, Jadx, Jazzer)

**BI Reporting & Web-app development:**  (Rshiny, PowerBI, Google Data Studio, Tableau, QuickSight, React)

**Version Control:** (Git, GitHub, Bitbucket, Azure Devops, Gitlab)

**IAAS: (**AWS CloudFormation, AWS & SAM CLI, Docker, Docker Compose, Terraform, AWS Lambda, SNS, SQS, EC2, SAM Application Framework, AWS Fargate, AWS Lambda, AWS CDK, AWS Smithy AWS ECR,AWS Dynamo DB,AWS Step Functions)

**Database:** (Excel, BigQuery, Snowflake, DynamoDB, Athena, OpenSearch, Google Cloud)

**Personal Projects**

**Project 1** – Reverse Engineering Mobile Application (London Village Network) – Aug 2023

Undertook a mobile security pen-testing engagement where I explored vulnerabilities within mobile applications. I explored vulnerabilities due to broadcast receivers, web views, intent filters, and fragment injection attacks.

Certifications

1. CertNexus CyberSAFE (August 2023)
2. BCS CISMP (September 2023)
3. Dell EMC – Data Science Associate Certificate - May 2020
4. BCS – Diploma in Data Analysis Concepts - May 2020

Recent Publications

[**https://ieeexplore.ieee.org/document/10167206**](https://ieeexplore.ieee.org/document/10167206)

Callaghan Ebojoh, Abel Yebohah Ofori K. “Agent Based Simulation of Botnet Volumetric and Amplification Attack Scenarios Applied to Smart Grid Systems” , 2023 4th International Conference on Intelligent Engineering and Management (ICIEM)

**GitHub Link :** [**https://dev.azure.com/Asaph-Products/Research%20Projects**](https://dev.azure.com/Asaph-Products/Research%20Projects)