Miles Obare

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EXPERIENCE

Booking.com Limited — London, UK
Software Engineer — *April 2023 - Present*

- **API Gateway**: Development and deployment of an API gateway on AWS and GCP that serves Booking.com APIs to external users. These include critical company APIs that manage bookings and card holder data(PCI compliant traffic). Development of kubernetes operators and controllers that reconcile state in the cluster. Development of envoy proxies and service mesh integrations to route and manage traffic into internal services. Authoring Terraform modules to manage the infrastructure on cloud. Configuration and management of the DNS setup and networking into the internal services from the public. Involvement in live incident resolutions and capacity management.

Relevant Skills: Go, Terraform, Kubernetes, AWS, GCP

Meta Corporation — London, UK
Production Engineer — *Feb 2021 - March 2023*

- **Media Processing Infrastructure**: Implemented media protocols(RTP, SDP, WebRTC) that were used for both encoding and decoding video and audio frames used in Meta's applications. Integrated with other Meta media stack at the protocol and infra levels. Owned the end to end release process for this infrastructure and its health.
- **Distributed Load balancing**: Implemented the back-end load balancer used by this media service, it's scalability and reliability. Implemented end-to-end scaling solutions for burst traffic and elastic user patterns. Ensured low latency and jitter buffers by implementing a geo-colocation load balancer and automated regression testing.
- **Service Reliability**: Owned the reliability of the video conferencing infra, including SLOs/SLIs, alerting, monitoring and observability.

Relevant Skills: C++, Rust, Python, Load Balancers, Reliability, Observability

Microsoft Corporation — Nairobi, KE
Software Engineer — *May 2019 - Feb 2021*

- **Application Compatibility**: Built tools that detected and mitigated application compatibility issues when a customer is updating/upgrading their Windows OS. This involved analyzing the application's OS API coverage and applying blocks or mitigations in form of shims that intercept system calls to the operating system. It also involved using the data from the test lab and determining if the customer machine is ready for the update based on their hardware and software configuration.
- **Azure Migration Tooling**: Built cloud tools to determine incompatibilities on on-prem servers when a customer is migrating their workloads to Azure. Built a big data processing system based on Apache Spark to analyse telemetry from customers and determine the probability of having incompatibilities on Azure and apply relevant mitigations.

Relevant Skills: Java, C#, Azure, Apache Spark, Python

Loanbee Limited — Nairobi, KE
Software Engineer — *Dec 2017 - May 2019*

- **Alternative credit scoring**: Built and deployed an alternative credit scoring model to detemine loan eligibility for customers based on their mobile money transactions. The model was based on a fully-connected neural network and reduced the default rates by 15%. Project presented at the Deep Learning Indaba research conference in Cape Town.
- **Fraud detection**: Built and deployed a fraud detection service to categorize users based on their activity and payment behaviour on the system. The model reduced cases of fraudulent people getting loans and items on credit. The model was based on gradient boosted trees and fully-connected neural networks.
- **ETL Data Pipelines**: Built the data pipelines to clean and extract useful information from the data collected from customers while ensuring privacy.The pipeline was based on Apache Airflow and Apache Spark, backed with Google Dataflow and Pubsub. The pipeline was also used by the data science team to quickly iterate and test their models.

Relevant Skills: Java, Python, Kubernetes, Apache Spark, Google Cloud

Deveint Limited — Nairobi, KE
Senior Software Developer — *May 2016 - Dec 2017*

- **Mobile Application Development**: Built Android and iOS applications for the company's clients. Meeting with clients to collect the requirements and align on the project progress. Released 3 applications to Google Playstore and Apple App Store with over 500K combined users.
- **Nairobi Securities Exchange**: Led a team of 5 engineers to develop mobile applications and backends that integrate with the national securities exchange and enable users to access real-time trading data. Automated the migration of historical trading data into PostgreSQL and Hadoop from the legacy storage systems for the applications to consume.
- **Linux System Administration**: Led the backend team in the company to deploy, manage and secure the servers. Ensured accountability in server access by disabling root logins, enforcing 2FA, enforcing use of SSH keys and creating a role-based access system.
- **Incident management**: Led live incidents investigations and resolutions.

- **Webtribe Limited**   Nairobi, KE
  Software Engineer Intern   *May - Sept. 2015*
  - **Mobile Application Development**: Redesigned the National Health Insurance Fund(NHIF) application following Material Design principles, increasing downloads on Playstore, fixed previous race conditions and crashing issues.
  - **Soja**: Soja is a visitor management system. Designed and developed the initial mobile application. Developed and deployed the backend code to the company's Linux servers on Linode and set up the initial MySQL database.

Projects

- **Book Author, Java, PacktPub**: Co-authored a book on object-oriented programming in Java with PackPub. The book introduces readers to the basics of OOP like Classes and objects, inheritance, polymorphism, abstraction and encapsulation. The book can be read here: packtpub.com/application-development/java-fundamentals
- **Spotify Discover Weekly**: An open source Rust based service to archive your Discover Weekly song with implementation of Spotify Auth flow.   github.com/bdhobare/discover-weekly
- **Deep Learning Indaba - www.deeplearningindaba.com**: Indaba is a commmunity of machine learning experts and enthusiasts in Africa. Attended a one-week machine learning bootcamp in Cape Town, SA and presented my research work on credit scoring as a poster. Co-organized the 2019 Indaba in Kenya with over 500 researchers and students in attendance.
- **Black in AI workshop at NeurIPS**: NeurIPS is the largest conference on artificial intelligence held annually in Canada.Research poster accepted for presentation at the second Black in AI(BAI) workshop at NeurIPS in Montreal, Canada.
- **MPESA SDK**: Open source SDK to enable developers to easily accept mobile payments in their apps using MPESA. github.com/bdhobare/mpesa-android-sdk
- **Panelist- Data science for Business Meetup**: Gave a talk to startups on my experience building data products and how they can start to use data systems for decision making.

Education

- **Jomo Kenyatta University of Science and Technology**
  BSc. Electrical and Computer Engineering; Upper Honours