ALEX MBUGUA NGUGI

Full Stack Engineer

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🔗 https://github.com/asce1062

EXPERIENCE

Software Developer

Andela

📅 03/2017 - Present   📍 Nairobi, Kenya

- Increased mentorship connections at Andela using Lenken, collaborating in a scrum team of 12 members to build features for mentee-expert developer interactions
- Delivered major updates, including social login and barcode scanning, on the Andela Resource Tracker android app by leading and mentoring a team of 10 developers
- Placed on partner 2U, where I have been contributing to delivering learning outcomes to millions of students at scale by collaborating with universities and learning institutions

Engineer III

2U

📅 01/2024 - Present   📍 2U Brooklyn, New York, United States

- Collaborated with cross-functional teams, including auth, payments, and platform engineers, to align authentication flows with the broader marketplace transformation strategy
- Increased transaction completion rate by designing robust authentication flows for the Marketplace Transformation initiative
- Enabled seamless checkout sessions between edX and Commerce Tools by integrating authentication logic using Next.js (SSR), Netlify, and Frontastic API Hub
- Secured over 500,000 user sessions per month by enforcing JWT signature verification and managing edge cases such as token expiration and single log-out scenarios
- Maintained authentication service uptime by deploying and monitoring using Datadog, Frontastic.io, and Humio dashboards
- Mentored developers and facilitated professional development

Engineer III

2U

📅 01/2023 - 01/2024   📍 2U Brooklyn, New York, United States

- Enabled secure SSO integration for all enterprise users by designing and deploying a SAML SSO and edX OAuth self-service orchestration API via Auth0
- Developed API Gateway endpoints and AWS Lambda functions for SSO authentication, serving a user base of more than 200,000 across enterprise clients
- Achieved a reduction in onboarding time by building a self-service orchestrator, allowing enterprise users to configure SSO independently by automating management tasks
- Implemented authentication flows to validate user roles and restrict access based on metadata in Auth0 and Cognito
- Improved OAuth2 connection efficiency for all applications by enhancing the Auth0 Terraform provider to support custom headers by contributing to the open source project

SUMMARY

Alex is a results-driven, articulate, and analytical Full-Stack Engineer with extensive experience designing and deploying secure, scalable cloud architectures for high-impact platforms. Demonstrates expertise in authentication systems, infrastructure as code (IaC), and Agile methodologies, driving successful technology initiatives impacting millions of users. Recognized for driving platform transformation through cross-functional collaboration and excels at guiding engineering teams towards delivering platform-wide tools and infrastructure that drive business and engineering success.

SKILLS

Systems Design	Architecture
Documentation	ADR

Change Management

Team Management	Onboarding

Maximising Potential

Priority Management

Process Improvement	Scheduling
Project Management	Postmortems
Incident Management	RCA
Strategic Thinking	Team Building

TECHNICAL SKILLS

Languages

TypeScript	JavaScript	Python

Go	PHP	SQL	HTML/CSS

Java (android)	C++	C	.Net

ASM

EXPERIENCE

Engineer III

2U

📅 01/2022 - 01/2023 📍 2U Brooklyn, New York, United States

- Enabled secure access to EDX and GetSmarter by enterprise clients by deploying a federated SSO solution with Auth0
- Improved B2B authentication flow by centralizing SSO for all client organizations, resulting in an increase in login efficiency
- Enabled migration of user accounts to Auth0 by implementing user linking between Cognito and Auth0
- Achieved a reduction in onboarding time for EDX and GetSmarter enterprise clients by collaborating with all cross-functional teams to ensure successful SSO migration

Engineer II

2U

📅 01/2021 - 01/2022 📍 2U Brooklyn, New York, United States

- Implemented a proxy service for authentication between 2U's degree sites and all internal applications with Auth0, ensuring user data parity during transition from OARS
- Reduced auth provisioning time for new programs through automation of all Auth0 configurations using Terraform
- Supported logistration and user management operations by developing and maintaining Lambda functions and serverless services
- Increased user profile completeness by creating progressive profiling pages for richer data collection across platforms

Engineer II

2U

📅 01/2019 - 01/2021 📍 2U Brooklyn, New York, United States

- Streamlined asset delivery and reduced deployment times by engineering ViBrAM (Visual Brand Asset Manager), AWS Lambda and Step Functions for seamless asset delivery across all 2U platforms
- Migrated all branded and brand assets to new infrastructure by implementing Lambda functions that integrated Central Park (new program data entry point), Hygraph (content manager using GraphQL), and S3 (asset store), ensuring on demand content delivery to all platforms
- Improved asset visibility and QA turnaround times for creative teams by collaborating to deliver ViBrAM-UI using Next.js, Material-UI, and Storybook
- Enabled monitoring by developing CloudWatch and Slack Integrations to ensure ViBrAM system reliability

Engineer I

2U

📅 04/2018 - 01/2019 📍 2U Brooklyn, New York, United States

- Increased onboarding efficiency by synchronizing 100% of all new program fields with Salesforce using the in-house CMS, OARS
- Reduced UAT times and decreased deploy frequency by ensuring 100% accuracy during all program standup
- Resolved manual process hurdles, enabling faster deployments by implementing GitHub version control strategies
- Managed all support tickets, reducing turnaround times by 80% for program updates and enhancements post-launch

TECHNICAL SKILLS

Frameworks

Next.js React Node.js Astro

Tailwind CSS Bootstrap

Frontastic WordPress Django

Flask Laravel Angular

Cloud Computing & IaC

AWS IAM EKS Lambda

Step Functions API Gateway

Secrets Manager CloudFront

CloudFormation EventBridge S3

Cognito SES SAM Route53

Kinesis Docker Kubernetes

Terraform Atlantis

Data Management & Visualization

Postgres DynamoDB Redis

Denodo Kafka Datadog

REST API GraphQL API Hygraph

MSSQL MySQL SQLAlchemy

Authentication & Authorization

Auth0 ORY Keycloak

OAuth 2.0 SAML 2.0 JWT

SSO

EDUCATION

B.Sc. Information Technology

Jomo Kenyatta University Of Agriculture And Technology

📅 09/2012 - 08/2016   📍 Nairobi, Kenya

- Second Class Upper Division
- Majored in Software Engineering
- Developed a .Net and MSSQL application to streamline procurement management for the Public Procurement Oversight Authority of Kenya
- Migrated the existing MS Access database to MSSQL, preserving historical records while Improving workflow efficiency for procurement management and government tender tracking

REFERENCES

Bruna Carrijo
Available Upon Request

Julianna Rusakiewicz
Available Upon Request

Sunil Gunisetty
Available Upon Request

Ben Lu
Available Upon Request

TECHNICAL SKILLS

Platforms & Practices & Tools

Git   GitHub   CI/CD   Buildkite

CircleCI   Jenkins   Netlify

GitHub Actions   API Integrations

Agile Methodologies   Jira

Confluence   Trello   Lucidchart

Swagger (OpenAPI)   Figma   TDD

VS Code   Visual Studio   Emacs

Android Studio   Slack   Gather

LANGUAGES

English
Proficient   ●●●●○

FIND ME ONLINE

Website
https://alexmbugua.me