

ALEX MBUGUA NGUGI

Full Stack Engineer

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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 SSO through 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

Incident Management & Postmortems (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
- Developed ViBrAM (Visual Brand Asset Manager), for seamless asset delivery across all 2U's sites and products
 - Centralized asset delivery by engineering AWS Lambda and Step Functions for automated synchronization across 100% of 2U's sites and products, Hygraph (previously graphCMS asset manager), and S3
 - Supported efficient asset management for all creative team members by collaborating on the ViBrAM-UI frontend

Engineer I

2U

- 📅 04/2018 - 01/2019 📍 2U Brooklyn, New York, United States
- Increased onboarding efficiency by ensuring synchronization of 100% of new program fields with Salesforce using and internal CMS, OARS
 - Reduced UAT time and decreased deploy frequency by ensuring 100% accuracy during program standup
 - Resolved manual process challenges, enabling faster deployments by implementing GitHub version control strategies
 - Managed post-launch support tickets, supporting program updates and enhancements reducing turnaround times by 80%

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

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>