

# 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 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.

## LANGUAGES

English  
Proficient



## SKILLS

Systems Design	Architecture
Documentation	
Change Management	
Team Management	Onboarding
Maximising Potential	
Priority Management	
Process Improvement	
Project Management	Scheduling
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

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### 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

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### 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**

## FIND ME ONLINE

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### Website

<https://alexmbugua.me>