



# Alex Mbugua Ngugi

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A Full-Stack Engineer adept at building scalable, secure, and cloud-native systems in the EdTech and eCommerce sectors. Strong cross-functional collaborator, with a track record of delivering platform-wide tools and infrastructure that drives engineering and business success.

## ADDITIONAL CONTACT INFORMATION

- Github: <https://github.com/asce1062>
- Website: <https://alexmbugua.me>

## PROFESSIONAL EXPERIENCE

### Andela

03/17 – present

#### Software Developer

Andela provides companies with access to the top 1% of global tech talent.

- Collaborated in a scrum team on Andela's internal product, Lenken, facilitating mentorship connections between mentees and experienced developers.
- Led and mentored a team on the development of the Andela Resource Tracker android application.
- Placed on a partner, 2U, where I've been part of a team working on delivering learning outcomes at scale together with leading universities and institutions.

### 2U Brooklyn, New York, United States

04/18 – 01/19

#### Engineer I

New Degree Offering.

- OARS, an internal CMS for new program onboarding, ensuring Salesforce synchronization of program fields.
- Maintained high accuracy and attention to detail for successful program standup.
- Overcame challenges like manual work, limited customizability, slow deployments, version control, and UAT turnarounds.
- Handled post-launch support tickets for program updates and enhancements.

### 2U Brooklyn, New York, United States

01/19 – 01/21

#### Engineer II

ViBRAM (Visual Brand Asset Manager).

- ViBRAM (Visual Brand Asset Manager), seamless asset delivery across multiple platforms.
- Engineered AWS Lambda and Step Functions for automated asset synchronization between products, Hygraph, and S3.
- Collaborated on a frontend, ViBRAM-UI, for effective internal asset management by creative.

**2U Brooklyn, New York, United States**  
**Engineer II**

**01/21 – 01/22**

Degrees Auth.

- A proxy service for authentication between 2U degree sites, internal applications, and Auth0.
- Automated provisioning of Auth0 configurations for new degree programs.
- Developed and maintained Lambda functions and serverless services for logistration and user management.
- Implemented progressive profiling pages for enhanced user data collection.

**2U Brooklyn, New York, United States**  
**Engineer III**

**01/22 – 01/23**

Auth0 Federation Layer.

- A federated SSO solution with Auth0 for access across multiple platforms.
- Enhanced B2B authentication flow by centralizing authentication through SSO.
- Implemented user linking between Cognito and Auth0 for seamless migration.
- Collaborated with cross-functional teams to ensure smooth SSO migration.

**2U Brooklyn, New York, United States**  
**Engineer III**

**01/23 – 01/24**

Enterprise SSO Self-Service: Enterprise SAML SSO & edX OAuth SSO.

- API Gateway endpoints and AWS Lambda functions for SAML SSO and edX OAuth SSO via Auth0.
- Developed self-service orchestration API for streamlined SSO configuration and management by enterprise users.
- Implemented authentication flows to validate user roles and restrict access based on metadata in Auth0 and Cognito.
- Enhanced the open source auth0 terraform provider to support custom headers for OAuth2 social connections.

**2U Brooklyn, New York, United States**  
**Engineer III**

**01/24 – present**

E-Commerce Auth.

- Authentication flow for Marketplace Transformation checkout system for seamless user sessions between edX and Commerce Tools.
- Collaborated with cross-functional teams to align authentication flows with the broader marketplace transformation strategy.
- Enhanced authentication resilience by implementing session validation and refresh mechanisms to prevent disruptions in user checkout experiences.
- Ensured security best practices by enforcing JWT signature verification and handling edge cases like stale sessions and token expiration and single log-out scenarios.

## EDUCATION

**Jomo Kenyatta University Of Agriculture And Technology**  
**BSc Information Technology – Second Class Upper Division**

**09/12 – 08/16**

- Majored in Software Engineering.
- Developed .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 and improving workflow efficiency for procurement management and government tender tracking.

## KEY SKILLS

- Javascript, Typescript, React, Node.js, Next.js, Material UI, Bootstrap, Python, Django, Flask, Go, PHP, Laravel, Angular, Java (android), C++, C, .Net, ASM
- Docker, Kubernetes, Terraform, Atlantis
- AWS: IAM, EKS, Lambda, Step Functions, API Gateway, Secrets Manager, Cloudfront, Cloudformation, EventBridge, S3, Cognito, SES, SAM
- DynamoDB, Postgres, Redis, REST Api, GraphQL Api, MSSQL
- Auth0, SAML 2.0, SAML SSO, OAuth
- Swagger (Open API)
- CI/CD: Jenkins, Buildkite, Netlify, Github Actions, Slack Integrations, Datadog
- Jira, Confluence, Github, Agile methodologies, TDD

## REFERENCES

Available – Shared Upon Request.