

## Stephen Kiiyuru

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### Mid-Level Software Engineer

Software Engineer and Co-Founder with 6+ years of experience, specializing in front-end development with a growing focus on backend technologies. Passionate about building immersive 3D web experiences using Three.js. Skilled in developing web applications using React, Next.js, and Astro. Recently expanded into backend development, implementing REST and GraphQL APIs using Express and Apollo, integrating databases using ORMs, and deploying containerized applications using Docker and Nginx. Proven ability to lead successful projects, launch profitable ventures and continuously adapt to new technologies.

### Work Experience

#### Discovery Labs Limited

##### Software Engineer

###### Remote | 11/2021 - Present

- Designed and deployed static websites with Astro to optimize SEO, improving search rankings key pages from the fifth to the first page of Google results and reducing site load times from 8 seconds to under 2 seconds.
- Containerized Node.js applications using Docker and configured Nginx for reverse proxying, enhancing system scalability and reducing server response times.

#### Discovery Labs Limited

##### Co-Founder

###### Nairobi, Kenya | 11/2021 - Present

- Coordinated development of an AI-powered transcription web application to enhance accuracy, reducing transcription errors average of 7 per 100 words to 2 per 100 words.
- Directed structured learning sessions and code reviews to upskill a team of 3 engineers, improving code quality and reducing bug reports from 10 per sprint to 6.

#### The Discovery Centre Limited

##### Frontend Developer

###### Nairobi, Kenya | 01/2018 - 11/2021

- Developed e-learning web applications using React to enhance digital learning, increasing monthly digital content sales from 200 to 600 purchases.
- Implemented CI/CD pipelines using GitHub Actions to streamline deployment, reducing deployment times by 90%.

#### The Discovery Centre Limited

##### Co-Founder

###### Nairobi, Kenya | 01/2017 - Present

- Negotiated partnerships with 15 primary and secondary schools to integrate STEM into their curriculum, expanding the reach of STEM education.
- Guided a team of 12 educators to design interactive STEM curriculums, enhancing engagement for young learners.

### Education

Daystar University

Bachelor's Degree in Computer Science

2016

## Projects

### Imla | <https://imla.io>

- Implemented static site generation (SSG) using Astro to reduce Time to First Byte (TTFB) from 800 to under 50 milliseconds.
- Assessed accessibility using WCAG guidelines and implemented semantic HTML, ARIA roles, and keyboard navigation, improving usability for all users.
- Streamlined system reliability by introducing error monitoring with Sentry, cutting monthly user-reported issues by 50%.

### Events web app | <https://app.thediscoverycentre.co.ke>

- Architected a serverless backend with Next.js and Neon, optimized for sporadic traffic patterns, reducing infrastructure costs by 70%.
- Engineered real-time messaging with Upstash Redis pub/sub to synchronize M-PESA payment events across Next.js server actions, enabling instant transaction verification.
- Implemented composite indexes and schema-level optimizations in PostgreSQL, reducing query response times by 60% during peak registration periods.

## Skills

- **Programming Languages:** JavaScript, TypeScript, Python
- **Web Technologies:** HTML, CSS, React, Next.js, Astro, Node.js, Express.js
- **3D Development:** WebGL, Three.js, GLSL Shaders
- **API Design:** GraphQL, REST
- **Testing Tools:** Vitest, Playwright
- **DevOps Tools:** Git, Docker, Github Actions
- **Database Systems:** PostgreSQL, SQLite, Redis
- **Soft Skills:** Leadership, Problem-solving, Team Collaboration

## Volunteering

### Nairobi International School Coding Club

#### Volunteer Coding Instructor

Nairobi, Kenya | 01/2019 – 12/2023

- Conducted HTML, CSS and Python coding classes for children aged 9 to 11, building fundamental development skills and inspiring an interest in technology.

## Publications

"Hosting an Astro site in Digital Ocean"

Personal blog | 2025