

Keegan Frieslaar

Full-Stack Software Engineer

Cape Town, South Africa

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SUMMARY

Self-taught full-stack engineer with 8+ years building and operating web and cloud systems. I currently build MSA Grid at Safety iO (MSA Safety, NYSE: MSA) – a safety-critical connected-safety platform – across Angular front-ends, Node/TypeScript APIs and the AWS serverless infrastructure underneath them. I work daily with distributed teams across Germany and the US, mentor engineers and own services in production.

EXPERIENCE

Software Engineer · Safety iO (MSA Safety (NYSE: MSA))

Mar 2023 – Present · Cape Town, South Africa

- Build and operate MSA Grid end to end – Angular front-end, Node/TypeScript REST APIs and AWS infrastructure – for a safety-critical platform used worldwide, where top customers run fleets of 300-3,000 gas detectors and reliability protects workers in hazardous environments.
- Own and operate production AWS serverless infrastructure using Lambda, API Gateway, Step Functions, DynamoDB and RDS/PostgreSQL, scaling horizontally with concurrent demand.
- Define infrastructure as code with Ansible-driven CloudFormation, and maintain automated Bitbucket Pipelines and Jenkins delivery promoting builds through demo, staging and production.
- Maintain ~90% test coverage across unit, integration and end-to-end suites with Jest, Testing Library and Playwright, supporting weekly production releases.
- Added an AI pull-request reviewer to CI that tracks reviewed commit hashes and leaves markers so it only reviews new changes, and halved engineer onboarding from 2 days to 1 by overhauling developer documentation.
- Instrument services with CloudWatch and Datadog, routing production alerts to on-call channels.
- Diagnosed and resolved a production outage in which a high-frequency polling endpoint saturated an RDS cluster, restoring stability through targeted database indexing.
- Mentored 13+ engineers and review code daily.
- Deliver internationalised interfaces with i18next for a globally deployed product.

Tech: TypeScript, Angular, NGRX, Node.js, PostgreSQL, AWS Lambda, API Gateway, Step Functions, DynamoDB, RDS, CloudFormation, Ansible, Jenkins, Docker, Datadog, CloudWatch, Jest, Playwright

- Owned the React front-end of Xago, Africa's first XRP (Ripple) digital asset exchange – building real-time trading charts, Swagger-driven API integration and search against a regulated financial platform with 5,000+ registered users and R4.6 billion in trading volume, still live in production today.
- Built a customer-facing e-commerce platform for Masterparts, enabling online purchasing across a catalogue of 60,000 active line items and now handling 10,000-15,000 orders a month.
- Promoted from intern to junior to mid-level engineer, leading a team of 3 and mentoring junior engineers.
- Introduced code reviews, a testing pyramid with Testing Library, CI and automated deployments across client projects.

Tech: React, JavaScript, Node.js, MongoDB, REST APIs, Docker, Testing Library

SELECTED PROJECTS

Case study: an RDS outage caused by polling

How a 2-second polling endpoint saturated a production RDS cluster on MSA Grid, and how I traced it to a sequential scan and cut database CPU from ~95% to ~30% within hours.

keeganfrieslaar.com/projects/rds-polling-outage

Serverless AI Portfolio

This website: a static Next.js site on S3 + CloudFront with a Node.js Lambda backend and a Bedrock-powered agent.

keeganfrieslaar.com/projects/serverless-portfolio

SKILLS

Languages	TypeScript, JavaScript, SQL
Front-end	Angular, NGRX, React, i18next
Back-end	Node.js, REST API design, OpenAPI / Swagger
Data	PostgreSQL, MongoDB, DynamoDB
Cloud & infrastructure	AWS Lambda, API Gateway, Step Functions, CloudFormation, Ansible, S3 / CloudFront
Testing	Jest, Testing Library, Playwright
Delivery & operations	Jenkins, Bitbucket Pipelines, GitHub Actions, Docker, Datadog, CloudWatch, Linux
AI	Amazon Bedrock, LLM agents & tool calling, AI-assisted engineering

EDUCATION

Software Development Bootcamp · Life Choices Academy

2017 – 2018

Software Engineering Certificate · 12 months full-time: HTML/CSS, JavaScript, Python and Git.

National Senior Certificate (Matric) · Bergvliet High School

2012 – 2016