

# Espen Albert



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<https://github.com/EspenAlbert>

## Summary

I am a developer with six years of experience building and deploying software across the stack and clouds. I care about every stage of the software development cycle, from idea to delivery. I'm passionate about writing clear code, building helpful tools, and contributing to open-source projects.

- Favorite languages: Python, Terraform, Javascript, Go
- Most used technologies: AWS (EC2, IAM, Lambda, DynamoDB, EKS, ECS++), Kubernetes, InfluxDB, MongoDB, Istio, Envoy, Postgres, Docker, Kafka, Azure DevOps, Gitlab, Github++
- Frameworks: FastAPI, Flask, Django, Dash, PantsBuild, React, Angular++
- Education: Master's degree in Computer Science from the Norwegian University of Science and Technology.

## Experience



### DevOps Engineer

wheel.me

Feb 2021 - Present (2 years 7 months)

- Built a SaaS product with multiple tenants on AWS running on EKS with an istio service mesh using mostly Python, Terraform, and AzureDevOps pipelines
- Built a serverless observability system running multiple Python lambda functions, using open source collectors, and working with AWS CloudWatch logs, metrics, alarms, and dashboards + slack notifications
- Built an SSO (single-sign-on) system containing two FastAPIs deployable as Istio External Authentication or as an AWS Lambda function to enable employees secure access to debugging tools (e.g., pgadmin and rabbitmq-admin)
- Built a system for "lightweight" deployments, using Terraform, cloud-init, lets-encrypt, and an envoy-proxy to create a ready-to-use EC2 instance
- Built a custom CI system written in Python and Terraform. Event-driven microservices using Kafka and MongoDB with a Dash UI. Integrating with GitLab to show build statuses and run custom runners on AWS that supports docker-compose based testing with a custom Pytest format and publishing test reports and alerts to Slack.
- Built a GitOps based deployment system using a kOps managed kubernetes cluster and Flux 2 with SOPS. Service mesh using Istio Operator. Monitoring with a modified Telegraf-Operator to simplify sidecar injection and metrics. Local testing with kind



### Full Stack Developer

wheel.me

Dec 2018 - Jan 2021 (2 years 2 months)

- Built a Python grpc api using MongoDB, PostgreSQL, and rabbitmq to communicate with robots and frontends
- Built a rabbitmq consumer (bridge) forwarding messages to ROS
- Built a Python Dash UI using OpenCV to modify pgm files and support reading writing to a grpc API

- Used PantsBuild Pants for linting, testing, dependency management, and packaging. Created a few custom plugins for docker build, environment variables in docker-compose files, and helm-chart exporting
- Built a Python service running selenium-based tests by reading yaml files and using screenshots +OCR (optical character recognition) to test a flutter app



## **Software and Web Developer**

### **Rocketfarm AS**

Aug 2017 - Dec 2018 (1 year 5 months)

- Built a full-stack application for controlling wheels in a vrep simulation. Python backend with flask-socketio framework and celery using rabbitmq for background tasks. And a javascript react+redux frontend. Hosted on Heroku
- Part of maintaining a "smart-house" API powering a smart house with ZigBee devices. .net backend and Angular Javascript frontend.
- Created an Udemy course: Quick introduction to InfluxDB



## **Tester and Programmer**

Feb 2014 - Apr 2015 (1 year 3 months)

Testing: Test cases + integration tests.

Translation.

Documentation.

Selenium webdriver integration testing.

Visual studio.

C#., Jenkins

## **Education**



### **Norwegian University of Science and Technology (NTNU)**

Master's degree, Computer Science

2012 - 2017

4th year finished at NTU - Nanyang Technological University (Singapore)