

Vinayaka K V

Code, Mountains & Forests, Coffee

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WORK EXPERIENCE

Backend & DevOps Engineer

Aug 2021 - present

Mainteny

- Adopted best practices for cloud resources and migrated the existing infra to Pulumi IaC with zero-downtime
- Implemented CI/CD pipelines for IaC, making infra review transparent and delivery fast
- Implemented in-house CLI tools for customer onboarding, speeding up onboarding by eliminating engineering efforts
- Optimized CI/CD pipeline execution using on-demand computing resources and caching, reducing the time-to-feedback and operational costs
- Secured infrastructure behind Firewall and CDN
- Contributed to the development and testing of Backend REST APIs in Quarkus Framework
- Contributed to the development of Web UI and Dashboards in ReactJS using Material UI

SKILLS

<i>Languages</i>	TypeScript, JavaScript, Kotlin, Java, Python
<i>Frameworks</i>	React, NextJS, Gastby
<i>Environments</i>	AWS EC2, AWS Lambda, Kubernetes
<i>Tools</i>	Datadog, LogDNA, ElasticSearch

PROJECTS

Pulumify *Pulumi, NodeJS, TypeScript*

Project at *Mainteny* to migrate its infra to IaC

- Chose Pulumi over Terraform due to ease of adoption and familiar syntax
- Divided entire infra into several stacks making IaC manageable and keeping states isolated
- Network, Database, Message Queue, Kubernetes Cluster, Kubernetes Applications, CDN, and Firewall were the main stacks
- Migration incurred 0-downtime, mostly by replicating the environments and switching DNS records at the end
- Decided on cloud resource naming and tagging conventions along the way, providing a clear breakdown of the costs

Morpheus *NodeJS, TypeScript, Zod, Commander*

Project at *Mainteny* to onboard the business customers coming with data in spreadsheets, transform the data into Mainteny's format and import it to the backend

- Initiated project after considering SaaS alternatives like FlatFile, which were too costly for the business
- Ideated on the project structure, possible implementations, and future goals with all stakeholders
- Divided project into two parts – Customer-Specific Adapters and Generic Importer, to keep things simple and manageable
- Modelled the relationships between Data Models in the backend, defined data schema, and validation rules, in the Generic Importer
- Implemented dependency resolution and rate-limited POST API calls in the Generic Importer
- Defined and implemented *fluent* interfaces for writing Customer-Specific Adaptors
- This project eliminated the need for a separate project with redundant scripts to onboard every customer and limited the onboarding process to code adaptors.

Benaka Malnad Stores *NextJS, TypeScript, Mantine, GraphCMS, Vercel Functions, MongoDB*

benakastores.com

An online shopping portal for our family-owned organic spices and local products business.

- Designed and developed the website, migrating it from a no-code SaaS solution due to performance reasons

- Reduced hosting and deployment costs by 90% during migration
- Improved user experience by reducing time-to-load using static site generation
- Implemented checkout functionality using Vercel functions and MongoDB
- Implemented insights for non-checked out cart items, improving customer outreach
- Designed with customer privacy in mind – ensuring data residency in India, along with clearly defined Privacy Policy

AndMalDetect *PyTorch, NetworkX, Androguard, Hydra* github.com/vinayakav/android-malware-detection
Masters Research Project at *NITK*; Android Malware Detection using Function Call Graphs and Graph Convolutional Networks.

- Developed data pipelines to convert Android applications into Function Call Graphs with enriched information
- Developed Graph Convolution Network-based deep learning model to ingest the enriched graphs extracted from the application, and predict the probability of the graph being taken from a malware application
- Designed and executed the experiments to find out the trade-offs between model size and detection accuracy
- Published the work in an IEEE Conference; the extension of the work was accepted in IEEE Access journal.

LandChain *jQuery, MapBox, Bootstrap, Flask, BigChainDB* github.com/vinayakav/LandChain
Major Project at *SJCE*; A Blockchain-based land asset management and transaction system.

- Developed the frontend using Bootstrap CSS and jQuery, used MapBox to display the land assets using overlay on base satellite imagery
- Contributed to the development of backend APIs to initialize land assets, create users and manage transactions
- Contributed to the dockerization of the application, allowing testing of multiple users in a single machine
- Contributed to the development of the algorithm to visualize transaction history, fetching data from the database
- The work was awarded as one of the best projects in the CS&E department in the academic year of 2019

EDUCATION

Master of Technology (Research) in Information Technology 2019 - 2021
National Institute of Technology Karnataka (NITK), Surathkal. CGPA: 9.33

Bachelor of Engineering in Computer Science and Engineering 2015 - 2019
Shri Jayachamarajendra College of Engineering (SJCE), Mysuru. CGPA: 9.53