Zain Hasan

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GitHub

Summary

Software engineer with 15+ years of experience building high-impact products
and platforms. Deep expertise in cloud infrastructure, developer tooling, and
scalable distributed systems.

Skills

- Programming Languages: Go, Ruby, Java, JavaScript, SQL, Python,
  TypeScript, Lua, Shell
- Frameworks/Libraries: Rails, Temporal, Sidekiq, Ember.js, Spring Boot,
  Node.js, React, Flask
- Testing Frameworks: Go test suite, RSpec, JUnit, Mockito, Jest, TestContainers, Gatling
- Databases: Postgres, Redis, Oracle, MongoDB
- Tools: Git, Terraform, Docker, GitHub Actions, GitLab CI, Nomad, Vault,
  AWS services, Ansible, Jenkins, Docker, Datadog, Prometheus, Grafana

Education

- Master of Science in Computer Science (2019 – 2022), Georgia Institute of
  Technology, Atlanta
  Specialization: Computing Systems | GPA 4.0
- Bachelor of Technology, Computer Science and Engineering (2006 – 2010),
  Cochin University of Science and Technology (CUSAT), Kochi, India

Work Experience

HashiCorp, an IBM Company

Senior Software Engineer — Remote | Jan 2023 – Present   Engineering Lead for the HCP Terraform team focusing on building and maintaining
VCS/GitOps integrations, Notifications, Terraform State Parsing and storage,
and various other services. Tech stack: Go, Ruby, JavaScript, Ember.js, Terraform, Nomad.

- Core contributor of tfc-workflows-tooling, a Go-based CLI that enables
  CI/CD integrations with Terraform Cloud. Led to improved developer
  experience and reduced friction for teams adopting Terraform Cloud in their
  CI pipelines. Blog: HashiCorp releases new CI/CD pipeline integration
  tool templates for Terraform

- Led the design and implementation of publishing private registry modules in Terraform Cloud from a single Git monorepo containing multiple modules.
- Improved performance of Terraform Cloud's VCS/Git workloads by optimizing Git operations (sparse-checkout, partial clone, shallow clone), significantly reducing clone times for large repositories. These improvements have drastically reduced the time it takes to process webhooks and trigger customer's terraform workloads.
- Led design and implementation of Private VCS for Terraform Cloud, enabling customers to securely connect private air-gapped VCS systems to Terraform Cloud workspaces.
- Contributed to shipping Terraform Stacks, enabling users to manage multiple related infrastructure deployments at scale.
- Hands-on experience with helping customers troubleshoot and resolve ongoing issues with Terraform Cloud.
- Tech stack: Go, Ruby, JavaScript, Ember.js, Terraform, Docker.

Core Digital Media (part of Rocket Companies) | Jan 2016 – Dec 2022

Principal Software Engineer — Los Angeles, CA | Dec 2021 – Dec 2022   Leading engineering of platform microservices. Collaborating with and mentoring engineers across design, development, and testing.

- Led team to build an Auth service in Java for authentication and authorization of inbound API calls to organization APIs.
- Evaluated and launched a new API gateway in Java using Spring Cloud Gateway; added circuit breaker, security, and Apache Zookeeper integration for distributed dynamic configuration.
- Led cross-team efforts to evaluate and select the organization's observability platform.
- Introduced TestContainers and Gatling to improve microservice testing and performance profiling.
- Enhanced observability using Micrometer, Grafana, and Prometheus.
- Guided teams to profile Java services using JDK tooling.
- Built an experimentation service for user targeting, enabling A/B and multivariate testing.
- Built a custom Datadog integration (Python + Ansible) to monitor database servers with custom queries and DB performance monitoring.
- Core member of the architecture group; supported teams in architectural decision-making.
- Conducted frequent audits and discussions on microservice security posture.

Senior Software Engineer — Los Angeles, CA | Jan 2018 – Dec 2021

- Led frontend (React) and backend (Java) teams to build a web application for a financial mortgage product offering neighborhood insights.
- Developed a platform microservice in Java for tracking web user events across products.

- Enhanced the content-management service (Java) responsible for serving all user-facing web content.
- Built a lead-verification service to scrub and verify partner-bound leads.
- Deployed and scaled ML models as REST APIs using Python under Gunicorn; implemented Docker-based deployments and hot-swap model object files in AWS S3.
- Exposed REST APIs over Apache Zookeeper operations and built an Angular + TypeScript web app for business users to manage feature flags and distributed dynamic configuration.
- Built data aggregation pipelines using MongoDB aggregation.
- Used Terraform to provision AWS resources (EC2, Load Balancers, Secrets).
- Built CI/CD pipelines with AWS CodeBuild, CodeDeploy, and Code-Pipeline.

Tata Consultancy Services/Sony Pictures Entertainment(Client)

Systems Engineer — Los Angeles, CA | Nov 2010 – Dec 2015

- Designed, developed, and tested Sony Pictures' home entertainment management suite using Adobe Flex and Java.
- Partnered with business teams to deliver solutions for resource and inventory management, release schedules, marketing assets, and product assembly.
- Performed technical upgrades and maintenance.
- Led offshore team and acted as liaison with business teams onsite.