

Parin Patel

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Immigration Status: Permanent Resident

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OVERVIEW

Lead DevOps Engineer with multiple projects in designing, developing and managing multi-language CI/CD pipelines in addition to medium-large size k8s cluster with multiple host profiles, Alluxio & Logging solution.

EDUCATION

- **Master in Computer Science (Major: Computing Systems)**
Georgia Institute of Technology, Atlanta, GA Aug 2019 - May 2021
- **B.Tech. (Major: Computer Science & Minor: Communication Technology)**
DA-IICT, Gandhianagar, India Aug 2013 - May 2017

TECHNICAL SKILLS

- **Languages:** Python, Bash, C, C++, NodeJS
- **Databases:** Administration, Management and Deployment of NoSQL databases (MongoDB), SQL databases (MySQL) & Schema-free SQL (Drill & Presto)
- Development of CI/CD pipelines in **NodeJS, Python, Java** with Jenkins, Docker, SonarQube.
- Advance Proxy setup with Nginx including rate-limiting Load Balancing.
- Expertise in managing custom kubernetes cluster in High Availability (HA)-Cluster setup.
- Support and Design of Docker cluster using orchestration platform called Rancher.
- Virtual multi-layer file system management using HA alluxio cluster with Multilevel caching solution
- Monitoring solution with Graylog, Graphite (Clustered)+ Grafana & Prometheus.
- Creation and Design of AWS based platform for mobile app with RDS , Lambda, EKS, Aurora , API Gateway, Cloudwatch etc.
- Monitoring solution with Graylog, Graphite (Clustered)+ Grafana & Prometheus.
- CI/CD pipeline: Jenkins, SonarQube, Sentry, Docker registry.
- End to end pipeline setup on AWS using codedeploy , S3 , cloudfront , APIGateway, EC2 , Kubernetes(EKS), Fargate.

INDUSTRIAL EXPERIENCE

- **Lead DevOps Engineer, Aunalytics** *August, 2017 - current*
South Bend, IN
 - Managed microservice written in Node JS communicating with Rancher, NFS and HAProxy.
 - Contributed and later owned service for Data Science platform built on Jupyterlab and K8s.
 - Migrated and redesigned legacy apps to automated Zero Downtime deployment stack for containerized platform with HA across multiple regions on K8s backed with HA replicated MongoDB with 99.999% up time.
 - Manged and integrated Persistent Volume based solution Trident backed with Netapp for Kubernetes cluster.
 - Managed Container Orchestration platform based on Rancher 1.x .
 - Created and Migrated active Hadoop container workload off from Native hardware to Containerized platform.
 - Set up Spark/Hadoop backed by Alluxio providing 60 % increase with 40 % reduction in cost.
 - Managed Zero downtime deployment pipeline with Jenkins. Pipeline integrates Unit , Functional testing with static scanning for vulnerability using SonarQube
 - Storing Artifacts in docker registry (ECR , Harbor , Docker registry).
 - Lead team which designed, deployed & managed custom HA Kubernetes cluster with 50s Node with 8000 Pods with 5000 pods/hour frequency.
 - Worked closely with stack holders to architect multi tier cloud Alluxio with 3 Level of hierarchy.
 - Redesigned existing Monitoring & stack with HA Prometheus + Grafana & cluster HA Graylog for log volumes close to 200GB daily.
 - Designed Natural Language Processing based model API solution for Callcenter based client using Flask(Python) , Docker , K8s.

- Automated setup of various host and platform via Ansible.

• DevOps Engineer, **Direct I (media.net)**

August, 2016 - May, 2017

Mumbai, India

- Created logging and Monitoring Pipeline for Nagios and AWS CloudWatch API using Logstash, Redis, Elasticsearch and Kibana (ELK stack) for unresolved abnormalities and problems.
- Managed Elasticsearch cluster on AWS.
- Created content delivery solution using nginx , varnish and EC2.
- Created Alert Management solution on top of nagios to detect false positive alerts which result in 85 % reduction.
- Written Kernel module for Network Sniffing tool for SIEM in C.
- Created Monitoring dashboards showing cost , usage and detailed analysis for different audiences from Infrastructure to management.
- Implemented innovative software for network Packet collection, storage and further real-time analysis using elastic stack, Wireshark, Kafka, Redis and neo4j.

• Summer Intern (Networking), **Infraassist**

April, 2016 - July, 2016

Ahmedabad, India

- Developed security information and event management (SIEM) system which analyses packet data in real time and finds malicious flows or URL using Apache Spark clusters.
- Implemented, Configured and maintained firewalls and routers and added rules to IPtables.
- Documented network vulnerabilities and unusual events while keeping encryption protocols up to date.

RESEARCH AND PROJECTS

Worked on projects of various topics like Operating Systems, Memory Management, Internet of Things and Computer Networks. Detailed description of the projects can be found [Here](#) .

- **File System:** Created file system that supported encryption(wolfTPM), corruption handling , user permission & Quota restriction.
- **Proxy with Cache support:** Created Proxy with support for cache GETFILE ,HTTP ,FTP and SFTP protocols.
- **New Functions in cycle accurate architectural simulator:** Added new simulation methods like second last used , markov chain based models in single processors, CMPs, PIMs, and thread level speculation (<http://sesc.sourceforge.net/>).
- **Distributed Attendance System:** Developed a system that exploits the inherent parallelism in the problem of taking the attendance by deploying multiple NFC (Near Field Communication) readers across the classroom.
- **Vocals separation from music:** Used REPET (REpeating Pattern Extraction Technique) technique to subtract instrumental from the vocal and then gives you vocals.
- **Performance Bench marking in Super Scaler MIPS Process:** Extensively researched [sesc](#) to calculate additional benchmarking like Branch Prediction , Cache misses etc.

ACHIEVEMENTS IN EDUCATION AND EXTRA CURRICULAR

- Established Radio Club; Chaired Technical Committee in University; Active member of Programming Club