

# Parin Patel

South Bend, IN 46545

Immigration Status: Permanent Resident

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## OVERVIEW

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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

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- **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

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- **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

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- **Lead DevOps Engineer, Aunalytics** *August, 2017 - current*  
*South Bend, IN*
  - Managed micro-service 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 Call center 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

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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

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