

Swapnil Patel

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TECHNICAL SKILLS

- **Distributed Cloud development:**
 - REST API development using *Django, Flask framework*, Web frontend with Reactjs.
 - Containerize & orchestrate web application workload using *Docker & Kubernetes, AWS SDK*.
 - Setup CI/CD pipeline using *Jenkins & Gitlab CI*.
 - Setup database cluster with replication & recovery management. [*Postgresql, mysql*]
- **Performance & root-cause analysis:**
 - Developed scripts to benchmark large scale performance for frameworks and application stack.
 - Used *Linux perf, Intel EMON, NUMA* data to perform in-depth & TMAM analysis of workload processes.
 - Used machine learning models on perf data to plot and extrapolate potential bottlenecks.
- **Exposure:** Java, Objective C, Golang, D3.js, C#, ASP .NET, Tensorflow, Keras, Apache Kafka, Rabbitmq, Elasticsearch, Firebase, Nginx, Electron.

WORK EXPERIENCE

Intel Corporation | Graduate Technical intern Jan 2019 - Present

- Developed generic benchmarking tool to study the performance of scaling workloads using FaaS frameworks.
- Characterization study of Kubernetes & Docker for large scaling workloads, TMAM & root-cause analysis.
- Owned and developed container catalog to showcase containers that would help show the value of emerging memory & storage products.

Aubergine solutions Pvt Ltd | Software engineer Aug 2016 - July 2017

- Developed and designed backend apis with Django REST framework, for Cubii - a smart elliptical trainer.
- Developed log monitoring system for intrusion detection with ELK.

Institute for Plasma research, India | Software engineer intern Jan 2016 - April 2016

- Built a desktop application to archive, plot observations from, optics & vacuum experiments - streaming data.

PROJECT WORK

Newt- Function as service with Cloud IDE | Personal Project May 2018-Present

Function as a service platform for developers with Cloud IDE for one place development and resource management.

- Architected & developed backend for FaaS framework using docker sdk to create function skeleton, provision isolated environment -Cloud IDE for each function. Developed apis to manage and scale workloads.

ResQ queue management app | Backend engineer Aug 2016- July 2017

Queue management app for restaurants to help managers efficiently synchronize and help predict wait times.

- Redesigned backend communication between frontend clients using websockets instead of polling apis, implementing event driven APIs. Decreased server b/w utilization, sync latency to 6x.

Pacman AI agent using Reinforcement Learning | School Project Aug 2018 - Dec 2018

Pacman AI agent to demonstrate and compare popular search algorithms with reinforcement learning.

- Developed backend with Python to implement BFS, DFS, A-star search & Q-learning algorithms to solve game.

EDUCATION

Master of Science- Computer Science, California State University- Sacramento, CA, USA **Aug 2017- Dec 2019**

Bachelor of Technology- Computer Engineering, Dharmsinh Desai University- Nadiad, India **July 2012- May 2016**

COMMUNITY

Speaker, Google Devfest 2017, GDG Sacramento **ACM ICPC 2018 Regionals** - rank 4/20 N. California Berkeley D2 site,
Organizer, Sacramento Web & Mobile Developers