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Reliance Jio Infocomm Bangalore, India
Cloud Engineer *April 2014 to January 2016*

- Contributed to the design, implementation, deployment and upgrade of an IaaS platform based on OpenStack for Reliance Jio. Primarily I worked in a service called Keystone which is responsible for authentication, authorization and providing an abstraction of tenant in a cloud environment.
- **Open source contributions**
  - Implemented caching layer in identity, assignment components of Keystone and thus reduced calls to database.
  - Implemented role based access control in MagnetoDB (DynamoDB API on top of Cassandra).
  - Integrated Ceilometer with MagnetoDB for metering.
  - Bug fixes in Keystone, MagnetoDB, Tempest, Glance etc.
  - Code reviews in Glance, MagnetoDB, Keystone.
- **Contributions which are not open sourced**
  - Revamped the authorization model in OpenStack which is static role based and replaced it with Amazon style authorization which is more flexible and based on user defined policy. Worked in a team of three in designing, implementing and deploying this feature.
  - Implemented a proof of concept which involved replacing MySQL with a distributed database (MagnetoDB, Cassandra) as a backend for Keystone. The aim of this project was to eliminate single point of failure and lack of scaling out option with MySQL. It also offered cross region replication which is beneficial in running multi-region cloud deployment. Implemeted the first iteration of driver in Python with MagnetoDB as backend which provides a DynamoDB like API on top of Cassandra. Helped team members in writing the Cassandra driver and in performance bechmarking.
  - Configuring and managing Keystone service as a part of Identity management team. That involved defining APIs, setting RBAC policies and making sure other services in OpenStack are properly integrated with Keystone.
  - Wrote and maintained complete suite of functional tests to test Keystone APIs in staging and production environment.

Morgan Stanely Advantage Services Mumbai, India
Analyst *Sep 2013 to March 2014*

- Developed a web application to visualize aggregated data from kdb+ database and present it with Ext JS and Highcharts library. It helped in identifying potential high value clients for equity derivative based products.

Google Summer Of Code Remote
Student Developer *May 2013 to Aug 2013*

- Improved replication policy in Drizzle database. Implemented a facility to wait for an event on table. That way, slaves subscribe to events on master and get notified of the events happening on the master. Finally changed slave code to use this and do event-based replication instead of polling.

Microsoft Hyderabad, India
Student intern *May 2012 to July 2012*

- Developed a tool to generate SQL script after grouping and efficient encoding columns of an Excel sheet. This tool eliminated the need of managing large Excel sheets manually and reduced the number of rows by a factor of ten.

CockroachDB Remote
Contributor *Nov 2015 to Current*

- Implemented a feature in key-value CLI to fetch a range of keys from the DB server.
- Implemented a feature to determine the cache size of RocksDB based on size of available memory irrespective of the type of host.

SMSRide Uber hackathon, India
Hacker *Jan 2016*

- Built an Android app to book an Uber by sending an SMS. This app is useful in scenarios in which a user doesn't have internet connection. I wrote the server side code which processes SMS sent by user, makes Uber API calls and then sends back an SMS to the user on successful booking. The code was written in Python and hosted on AWS Lambda service.

Other Projects

- **Page rank algorithm:** Implemented scalable version of page rank algorithm with input as webgraph from Google programming contest.
- **Membership protocol:** Implemented the gossip membership protocol which updates membership list at each node when new nodes join or nodes leave.
- **Mini distributed database:** Built upon the membership protocol project and wrote an in memory database where keys were distributed among nodes using consistent hashing.

- **Mini relational database:** Parsed a small subset of SQL language and implemented simple database queries on tables stored in text files.
- **Movie recommender system:** Implemented a movie recommender system using algorithms like k-means, collaborative filtering, k-nearest neighbours on a dataset collected from facebook friends.

Technical skills

Python, Go-lang, C++, MySQL, Cassandra, DynamoDB, Puppet, Vagrant, LXC, Docker, SDN fundamentals Rest API, Distributed systems, Linux, Shell scripting, Vim , Git

Education & Training

Indian Institute of Technology Hyderabad *August 2009 to May 2013*
Bachelor in Computer Science and Engineering with CGPA of 8.3

Mining Massive Datasets – *Coursera – grade : 94.9%* *Feb 2015 to March 2015*
Cloud Computing Concepts I – *Coursera – grade : 89%* *Feb 2015 to March 2015*
Cloud Computing Concepts II – *Coursera – grade : 99%* *March 2015 to April 2015*
Cloud Networking – *Coursera – grade : 98%* *Nov 2015 to Dec 2015*

Achievements and misc

- Won Uber's first Asia hackathon by building SMSRide.
- Talks and tutorials in OpenStack meetups.
- Secured all India rank 2035 in IIT-JEE 2009 and 1008 in AIEEE.
- Selected in top 1% of Astronomy Olympiad India.
- Scholarship by IITH and sponsorship for Industrial visit by JICA for good academic performance.
- Ping pong and carrom master.