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EDUCATION

Stony Brook University	**New York, US**	**Aug 2019 – May 2021**
Master's in *Computer Science*		
Indian Institute of Technology (IIT BHU)	**Varanasi, India**	**July 2012 – May 2017**
Integrated Dual Degree (*4+1 Yrs. Bachelor's + Master's*) in *Computer Science and Engineering*		

WORK EXPERIENCE

Cloud Infrastructure Administrator (CIA)	**Developer and Admin**	**Jan 2020 - Present**

- Working with *Prof. Mike Ferdman* on administering, improving and extending the current cloud system in COMPAS Lab (similar in spirit to EC2), that includes hundreds of server machines, thousands of CPUs, terabytes of memory, and nearly a petabyte of disk space.
- Technologies Include: OpenStack, MAAS, IPMI, Nginx, Go, Python.

PayPal - Full Stack Developer, Bangalore	**Senior Software Developer (Feb 2019 – May 2019);**	**July 2017 – May 2019**
	Software Developer (July 2017 – Feb 2019)	

- Designed and Implemented *Zeus*, a data ingestion framework which provides life cycle insights into our production components and is also being used by PayPal's upper management to track our product's KPI.
- Exposed a GraphQL endpoint */aftermath* from Zeus to automate daily monitoring of anomalies and involve respective teams via slack and outlook. This reduced the time spent by RTB person by *70%.*
- Worked with a team of 2 in Implementing tracking of relevant user actions in merchant onboarding web-flow for detecting live errors.
- Worked on Java Daemon and Batch components to generate partner insights, and also improved the functional test performances of Partner Onboarding web app and Partner Insights components by *45%* and *16%* respectively.
- Filed for a patent "Insights to Merchants in Marketplaces" in the month of Nov'18 to improve merchant conversion rate.
- Worked with a team of 3 on providing Data API solution for strategic partners by storing preprocessed data on an elastic search cluster.
- Implemented *pit* (Partner Insights Tool), a CLI framework used internal to our team for effective debugging and resolution of partner's report life cycle issues. This saved the time spent on resolving an issue from a whole day wait to nearly *10 mins*.
- Acted as a PoC for a strategic partner, and as a coach and mentor for two interns.

TECHNICAL SKILLS

Languages: NodeJS, C++, Java, Go, Python
Technologies: GraphQL, MySQL, MongoDB, React

PUBLICATIONS

Genetic Algorithm based Parallel Matrix Factorization for Recommender Systems in 15th International Conference on Information Technology (ICIT) IEEE 2016. Available on https://ieeexplore.ieee.org/document/7966837

PROJECTS

Dynamic route optimizer on Software Defined Networking platform using POX controller

- Worked with *Prof. Hari Prabhat Gupta* on implementing a dynamic route optimizer using 3 Linux hosts (and 14 simulated nodes on MiniNet), 2 Zodiac FX Hardware switches and one POX controller, where the main controller re-directs traffic optimally using OpenFlow Southbound protocol.
- A comprehensive survey of all the trending SDN controllers with statistical comparison in terms of preferred area of deployment, Northbound protocols, and architecture was done.

MapReduce and Fault Tolerant Replicated State Machine Protocol Implementation

- Taking leverage of Go channels and routines, implemented MapReduce's master/worker architecture, that also handles failures for both sequential and distributed modes of operation.
- Implemented Raft protocol using RPCs to manage server's state replica logs, and also saving persistent state as part of building a fault tolerant key/value storage system.

ACHIEVEMENTS / EXTRA CURRICULAR ACTIVITIES

- 97.94 percentile across 19 competitions on HackerRank.
- Ranked *3rd* in 2016 Hackathon event under TechNex (Annual Tech fest of IIT BHU) with team size of 2.
- PayPal Tech Expo 2018 coordinator, where our team won *"Most Engaging Stall"* award.
- Part of PayPal Gives, where we educate under privileged children.
- Chess event coordinator for SPARDHA (IIT BHU Event) 2015 and ranked *2nd* in the competition.
- Award of Achievement Certificate in Java Programming Language from Oracle Workforce Development Program.
- Part of Stony Brook Competitive Programming Club and Chess Club.

ADDITIONAL EXPERIENCE

- **Teaching Experience:** Teaching Assistant for 3 computer science courses (IT Workshop, Real Time Systems and Graphics).