Manish Shambu

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Education

- **University of Colorado at Boulder** — Boulder, CO
  Master of Science in Computer Science; GPA: 3.88/4.0 — *Aug. 2017 – (expected) May. 2019*
  - Coursework: Machine Learning, Data Center Scale Computing, Advanced Algorithms, Distributed Systems, High Performance Scientific Computing, Natural Language Processing, Internet of Things

- **PES University** — Bengaluru, India
  Bachelor of Engineering in Computer Science; GPA: 8.44/10.0 — *Aug. 2011 – July. 2015*
  - Coursework: Analysis and Design of Algorithms, Computer Networks, Operating Systems, Data Structures, Unix System Programming, Database systems

Skill set

- **Languages and Libraries**: Python, C, Java, go, SQL, Java Script, scikit-learn, numpy, OpenMP, MPI
- **Other Tools and Frameworks**: Hadoop, Spark, Apache Kafka, AWS, Elastic, Lambda, Git, Unix, Raspberry Pi, Docker, Kubernetes, Cassandra, Flask, Jenkins

Current Research

- **IRON for Storage stack**: Computational overhead associated with the network stack can break isolation in container-based environments. The main goal is to solve this problem and provide isolation between co located containers. I'm extending an existing paper for the storage stack

Professional Experience

- **Visa Inc** — United States
  Software Developer Intern — *May 2018 - August 2018*
  - **Next-gen Tech Products**: I spearheaded and developed an intelligent task assigning system(iTAS) using Drools rule engine in Java. Enhanced a gamification portal that is used to drive efficiency in Visa's Data Center

- **Oracle** — Bengaluru, India
  Software Developer — *Jun 2015 - Jul 2017*
  - **Diameter Signaling Router (DSR)**: DSR is a signalling infrastructure used in 4G LTE networks that centralises routing, traffic management and load balancing. I developed DSR's Network Function and Orchestration feature using OpenStack. Fully integrated the feature with CI pipeline

Selected Project Work

- **Drone assisted car parking**: Simplifying car parking using drones. A drone captures a snapshot of the parking space, identifies empty spaces and guides a car to the empty parking spot
- **Byzantine Chain Replication**: Architectured and built a Byzantine Fault Tolerant system with 2f + 1 replicas
- **Crash Tolerant system using RAFT**: Built a crash tolerant stack data structure using the open source RAFT based consensus
- **Big Data - Flight delay statistics**: Display flight delays while booking a flight. The delays are calculated using past data for more than 10,000 flight routes.
- **Intelligent Home Security**: Built a smart and intelligent home security system. Extensive usage of Raspberry PI to collect sensor data. Real time video monitoring and anomaly detection
- **HopIN**: Developed a carpooling software for the students at PES University. Designed and developed the driver rating and crediting system along with on the fly demand matching

Other Information

- Graduate Teaching Assistant for Undergraduate Algorithms - Spring 2019
- Graduate Teaching Assistant for Undergraduate Data Structures - Fall 2018