

Obulapathi N Challa

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Professional Summary

- 10 years of experience in software development using Python, Java and C
- 5 years of experience in Cloud Computing, Big Data, Data Science and Internet of Things
- Expertise in Amazon AWS, Google Cloud, OpenStack, Containers, Cloud Automation
- Expertise in Spark, Hadoop, Pig, Hive, Cassandra, MongoDB, Redis, Kafka, Akka, Zookeeper
- Expertise on batch as well as real time stream processing and analytics projects
- Streamlined Agile management using SCRUM, Kanban, CICD, Jira, DevOps, Scrum master
- Experience in building products, teams and community on Cloud, Big Data, and Open Source
- Excellent interpersonal and communication skills; Problem solving and leadership skills
- Team player, technically competent, result oriented, creative and research minded

Skills

Expertise: Cloud Computing, Big Data, Data Science, Distributed Systems, REST APIs

Agile: Agile, Kanban, Scrum, JIRA, CICD, DevOps

Software: Python, Go, Java, Scala, C, C++, Bash, R, Julia, HTML, Linux and UNIX

Cloud: Amazon AWS, Google Cloud, OpenStack

Big Data: Spark, Flink, Druid, Hadoop, Pig, Hive, Redshift, BigQuery, Dataflow

Data Science: ML, Neural Nets, Deep Learning, OpenNLP, NLTK, Pandas, Scikit, DataFrame, Jupyter, DataLab, Tableau

IoT: Atmel AVR, ARM, Edison, DSP, Flash, EEPROM, Sensors, I2C, SPI, USART, CAN

Databases: MySQL, Postgres, NoSQL, Cassandra, MongoDB, Redis, GraphX, Neo4j

DevOps: Ansible, Chef, Deployment Manager, CloudFormation, HEAT, Docker, CoreOS

Web Stack: Flask, Bottle, Twisted, Jinja, Django, Spring, Hibernate, Play

Messaging: Kafka, RabbitMQ, ZeroMQ, PubSub, SQS, Zaqar, Celery, Taskflow, Task Queue

Security: Kerberos, TLS/SSL, AD/LDAP, Bitcoin, Blockchain, Metasploit, Nmap

Others: Hiring, Git, Android, Akka, ZooKeeper, CDN, DNS, Vim, Bootstrap, IntelliJ IDEA, Google Apps, Microservices, Containers, Scalability, High Availability, Small Satellites, Drones, Robotics

Education

PhD in Big Data and Cloud Computing from University of Florida 2013

Dissertation: CubeSat Cloud, a framework for distributed storage, processing and communication of remote sensing data on CubeSat Satellite clusters

Masters in Electrical and Computer Engineering from University of Florida 2010

Bachelors in Information and Communication Technology from DA-IICT 2007

Experience

Big Data Cloud Analytics Developer IV at Monsanto Aug 2015 - Present
Big Data Cloud Analytics.

Software Developer II at Rackspace Inc. Mar 2014 - Aug 2015
Engineered OpenStack Poppy (CDN as a Service) and OpenStack Zaqar (Queueing system). Designed and developed solutions for log management, batch processing, real-time streaming and analytics using Spark, Hadoop, Pig Latin and Hive. Designed and built highly available and scalable web applications using Cassandra, MongoDB, Redis, Worker/Queue mechanisms.

Software Development Engineer at Amazon AWS May 2013 - Aug 2013
Designed and developed transport mechanism for synchronizing database replicas. Implemented asynchronous APIs for record transportation based on C++ Boost and Google ProtoBuffers. Automated the AWS infrastructure for managed MySQL at Amazon using CloudFormation.

MAC Protocol Developer at xG Technology Sep 2011 - Dec 2011
 Worked on xMax, a real-time data and voice protocol. Designed, developed and tested the xMax logging, a Linux kernel module, to report network status and statistics to /proc.

Radio Software Integration Intern at BlackBerry May 2011 - Aug 2011
 Did board level and Wifi testing on BlackBerry smart phones; Wrote python scripts to extract failures from logs and analyzed them to root-cause the calibration issues.

Research/Teaching Assistant at University of Florida Jan 2009 - April 2013
 Head of the Satellite Networks Lab at University of Florida; Lead FUNSAT V and VI satellite design competitions; Contributor to SwampSat satellite; Designed and built CubeSat Cloud.

Research/Teaching Assistant, Research Engineer at DA-IICT Aug 2006 - May 2008
 Head of the Embedded Systems and Sensor Networks Research Lab; Lead WildCENSE and Tiger Image Sensor Network projects with teams of size 6 and 4; Built CENSE sensor network.

Projects

OpenStack Poppy and OpenStack Zaqr 2014 - 2015
 Core contributor to OpenStack Poppy and OpenStack Zaqr. Engineered significant portion of their APIs. Designed and implemented several scalability and high availability mechanisms. Built POCs and implemented log management, analytics, billing, streaming analysis solutions.

Bitcoinpy, Reversecoin and Blockchain analysis 2013 - Present
 Created Bitcoinpy, a Python implementation of Bitcoin with focus on hackability and modularity. Created Reversecoin, the worlds first cryptocurrency with reversible transactions. Performed statistical analysis of Blockchain using Python Pandas.

CubeSat Cloud 2010 - 2014
 Designed and implemented “CubeSat Cloud”, a framework for distributed storage, processing and communication of remote sensing data using CubeSat Distributed File System (inspired by HDFS), CubeSat MapReduce (like MapReduce) and CubeSat Torrent (inspired by Torrent) respectively. Code was written in Python Twisted and ran on a cluster of Raspberry Pis.

FUNSAT V & VI and SwampSat 2008, 2009
 Lead UF’s Small Satellite LASER Communication subsystems team in FUNSAT V and FUNSAT VI; Bagged first prize in FUNSAT-V satellite design competition held by NASA. Designed communication protocols for SwampSat. Designed and developed SwampSat cloud application, a distributed packet collector, decoder and analyzer in Python on App Engine.

CENSE, WildCENSE and SmallCENSE 2006 - 2008
 Designed and developed CENSE, a delay tolerant WSN testbed for monitoring the habitat of wildlife. Developed WCFFS flash file system and wrote several device drivers. Developed and implemented a grid based localization technique using signal strength from radio base stations.

Linux from scratch 2005
 Built a custom Linux system, entirely from source code using Linux From Scratch. Have good knowledge of Linux internals, how things work together and depend on each other.

Leadership & Activities

Organizer for Cloud and Big Data & Google Dev Groups of St Louis 2015 - Present
 Founder and organizer of the group. Gave tech talks on Hadoop, Spark, AWS, Google Cloud, Cloud Computing.

Tech Talk Organizer and TechCrew member at Rackspace 2014 - 2015
 Organized and / or gave tech talks on Hadoop, Pig Latin, Hive, Cassandra, Spark, Docker. Organized hackathons on Big Data, Cassandra, Containers, Analytics, Streaming analysis.