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, Kubernetese
Big Data: Spark, Flink, Druid, Hadoop, Pig, Hive, Redshift, BigQuery, Dataflow
Data Science: ML, Neural Nets, Deep Learning, NLTK, Pandas, Scikit, Jupyter, Tableau
IoT: Atmel AVR, ARM, Edison, DSP, Flash, EEPROM, Sensors, I2C, SPI, USART, CAN
Databases: NoSQL, Cassandra, MongoDB, Redis, MySQL, Postgres, GraphX, Neo4j
DevOps: Ansible, Chef, Deployment Manager, CloudFormation, HEAT, Docker, CoreOS
Web Stack: Flask, Bottle, Twisted, Jinja, Django, Spring, Hibernate, Play, Jinja, Werkzeug
Messaging: Kafka, RabbitMQ, ZeroMQ, PubSub, SQS, Zaqar, Celery, Taskflow, Task Queue
Security: Kerberos, TLS/SSL, AD/LDAP, Bitcoin, Blockchain, Metaspoilt, Nmap
Others: Hiring, Git, Android, CDN, DNS, Vim, IntelliJ IDEA, Bootstrap, 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

Cloud Big Data Analytics Developer IV at Monsanto Aug 2015 - Present
Responsible for creating Data Cloud architecture for Monsanto on Google Cloud. Designed and built state-of-the-art data science platform using Jupyter and Kubernetese on Google Cloud. Architected and built the data pipeline that ingests millions of messages into Kafka to synchronize in-house databases with databases in AWS.
Software Developer II at Rackspace Inc. Mar 2014 - Aug 2015
Engineered OpenStack Poppy (CDN as a Service) and OpenStack Zaqar (Queuing 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 parts of AWS infrastructure for Aurora Database 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 Zaqar 2014 - 2015
Core contributor to OpenStack Poppy and OpenStack Zaqar. 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 Google Developers Group St Louis 2015

Organizer/Founder of Cloud, Big Data & Data Science Group St Louis 2015

Organizer/Founder of Cloud, Big Data & Data Science Group Atlanta 2014 - 2015

Tech Talk Organizer and TechCrew member at Rackspace 2014 - 2015

Founder of GatorLUG Students Group Gainesville FL 2010 - 2012
Founded and organized above open source meetups and student groups. Gave tech talks on Hadoop, Spark, AWS, Google Cloud, Cloud Computing. Organized hackathons on Big Data, Cassandra, Containers, Analytics, Streaming analysis.