D.Sai Natarajan

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SUMMARY

- Experienced in Data Science in Python & R, Bigdata, Cloud Computing, NoSQL, PLM domain.
- Have supported my team in implementing global projects with many international clients on Web, Mobile and desktop applications in end-to-end operations from ideation to delivery including architecting, development, deployment, handover and support, training end users.
- Practical knowledge and experience in working with Python, R, Scala, C, C++, C#, PHP and JAVA programming Languages and Spring Framework in Java. Deploying, NodeJS, AngularJS, ExpressJS, LoopBack in Meanstack platform, managing and troubleshooting issues in Openstack Cloud platform, Hadoop, Spark and MongoDB.
- Excellent troubleshooting, problem solving, team skills; high level of integrity and dedication to quality, excellence and corporate objectives.
- Accomplished at managing multiple tasks concurrently, working independently as well as in a team.
- Able to adapt and contribute in the continuously changing work environments.
- Currently managing a team of 5 in Duratech Solutions since November 2013 and overall IT experience of 9 years, Over 4+ years of experience in Bigdata, R, Python and Machine Learning, 6 years of experience in Cloud computing in Azure, AWS and Google cloud platform(GCP)

Expertise: Bigdata, Data Analytics and Data Science, Cloud Computing, DevOps, Programming(Procedural: C, Object Oriented: Java, Functional Programming: Python, R, Scala, Queries: SQL & NoSQL, Scripting: Windows, Linux Bash & Python, Web/Server Side Script: PHP, Java Script, HTML, CSS, Bootstrap)

OBJECTIVE: To work in a technology focused company with opportunities to utilize my full potential. Contribute to the organization my skills at excelling in challenging situations.

Profile Summary:

Trained more than 5000 candidates of diverse profiles from college students to corporate leaders upto the level of Vertical Heads and Assistant Directors in MNCs. I have managed end to end training management including process definition, design and implementation tracking, induction, delivery, validation of understanding, exit and feedback as a measureable metrics based system

Company	Content Covered	Number of Candidates	Cadidate Profile
TCS	TCS Internal Teamcenter Training for ILP	30	Freshers
TCS	TCS Internal Training for C,C++, Java, Teamcenter	20	1-5 Yrs
Bosch	Bosch Internal Training for C,C++, Java, Teamcenter	20	1-12 Yrs
CTS	External Training Bigdata at Duratech Solutions	50	2-14 Yrs
CTS	External AWS Cloud Computing at Duratech Solutions	30	2-20 Yrs
Bosch	External Training Bigdata at Duratech Solutions	5	5 Yrs
Imarticus	Internal Training Bigdata	45	0-15 Yrs
College	Training on Bigdata, C, Java, Cloud, NoSQL	4000	0 Yrs
At Duratech	Bigdata, AWS Cloud, Azure Cloud, Java, Spring	200	0 -2 Yrs
Bigdatalabs	Created and mentored a complete new team in Bigdata Stack	10	2 Yrs
At Duratech	Data Science in R, Python(Machine Learning)	30	0-5 Yrs
At Duratech	Data Science in R, Python(Deep Learning)	5	0-5 Yrs

Projects:

Implemented more than 12 international projects for clients globally at varying capacity using a cutting edge and diverse technologies

Company	Technology	Application	Role	Client	Year
TCS	C, C++, Java	Teamcenter Customization(PLM)	Developer	Terex, USA	2010
TCS	C, C++, Java, Oracle SQL	Teamcenter Customization(PLM)	Developer	Man Diesel, Denmark	2011
Bosch	C, C++, Java	Teamcenter Customization(PLM)	Developer	Siemens, Germany	2013
Duratech	PHP, MySQL, Joomla	Corporate Website	Lead	French Crcieker, France	2014
Bigdatalabs	Bigdata, Hadoop, MongoDB	MongoDB to Hadoop Hive Migration	Developer	Yotta Bytes, USA	2015
Duratech	PHP, MSSQL, IIS, Azure	Perkin Elmer Medical Devices Product Service Management Portal	Lead & Developer	Perkin Elmer, Singapore	2015
Duratech	PHP, MySQL, C# .NET, IIS	Catering Automation, Sales & Integration with POS System	Lead	Sodexo Kelvin, UAE	2016
Duratech	Java Spring, MongoDB, Android, RabbitMQ	Taxi Booking app with Real time bidding, reactive PubSub model with RabbitMQ, Deployed backend in AWS cloud	Lead & Developer	Shrikanth Panchbai, IIM Trichy, India	2016
Duratech	Java Spring, MongoDB, Android(Mob), PHP(Web)	Medical Appointment booking application with Web & Mobile front Ends, deployed in AWS Cloud	Lead & Developer	Ramesh, Bellary, India	2017
Duratech	Python Flask, MySQL, Unstructured Data	Sentiment analysis engine, Python based Machine Learning application hosted on AWS	Lead & Developer	Ramya, Coimbatore, India	2018

Technologies:

	Technology	Application	Proficiency
Programming Languages	C, C++	Enterprise Application	Expert
	Java	Enterprise Application	Expert
	Java Spring	Enterprise Application Backend, REST	Intermediate
	Python & R	Machine Learning & AI	Expert
	Scala	Machine Learning & Bigdata	Expert
	SQL	Enterprise Application	Expert
	MongoDb	Enterprise Application	Expert
	PHP	Enterprise Web Application	Expert
	Node Js	Enterprise Web Application	Expert
Web & Mobile	Android, Java	Enterprise Mobile Applications	Expert
	MEAN Stack	Full stack enterprise application, Loopback for APIs	Expert
	PHP, CMS	Wordpress, Joomla, Moodle Apps	Intermediate
Bigdata	Hadoop	Bigdata using Hadoop1 and Hadoop	Expert
	Hadoop File Formats	CSV, JSON, Parquet, Avro, RC, ORC	Expert
	Hadoop Deployment	Ambari, Cloudera Director	Expert
	Hadoop Enterprise	Hortonworks & Cloudera	Expert

	Hadoop Ecosystem	Hive, Pig, Sqoop, Flume, Kafka, Oozie, Hbase, Impala, Zookeeper, zeppelin	Expert
	Programming	Java & Python MapReduce, Java for Pig & Hive UDFs	Expert
	Spark	Machine Learning(MLLib), Streaming data processing from Flume & Kafka, Spark SQL in Both Scala & Python	Expert
	Visualization	Zeppelin, Tablue, Splunk	Expert
Machine Learning, Artificial Intelligence (ML & AI)	Python & R	Supervised ML: Linear, Multivariate, Polynomial Regression, Logistic Regression, Support Vector Machines, Decision Trees, Random Forrest, Naïve Bayes, Knearest Neighbours, Gradient Boosted Trees Unsupervised ML: Kmeans Clustering, Hierarchical Clustering, Association Rules(EClat, Apriori), Dimensionality Reduction using PCA & LDA, Web scrapping, Natural Language Processing(NLP), Boosting & Bagging	Expert
	Neural Networks & Deep Learning	Artificial Neural Networks, Convolutional Neural Netowrks(CNN), Recurrent Neural Networks(LSTM, GRU), Bidirectional RNNs, Generator Adverserial Networks(GANs), Restricted Boltman Machines(RBM), Attendtion & Memory in Neural Networks, AutoEncoders, R-CNN, Faster RCNN, Deconvolutional Networks	Expert
	Computer Vision	SSD, VGG, ResNet, OpenCV, GAN based Image generation, Transfer Learning	Expert
	Platforms	Tensorflow, Keras, PyTorch, MXNet, H2O, Theano, OpenAI Gym	Expert
	Artificial Intelligence & Reinforcement Learning	A3C, Deep Q Learning, Augmented Random Search, Seq2Seq for NLP, Monte Carlo Model & Hidden Markov Models, SARSA	Expert
	Research	Bayesian Program Learning(BPL), One Shot Learning with BPL, Content Based Image Retrieval(CBIR), Stacked GANs	
	Applications	Face Recoginition & Object Detection, Video2Text, Image2Text, Voice Recognition(Speec2Text, Text2Speech), ChatBots, News Channel Monitoring, Self Driving Car in Simulated Environment, User Action & Pose Recognition, Recommender System, Sentiment Analysis & Text Classification,	Expert
Cloud Computing	AWS	EC2, S3, RDS, DynamoDB, Elastic Block Store, Elastic Beanstalk, Cloud Formation, VPC, IAM, SNS, SQS, SWS, Cloud Front Caching	Expert
	Azure	Cloud Service, Azure Storage Buckets, Virtual Machines, Database Service	Intermediate
	Google Cloud(GCP)	Virtual Machines, Networking, Storage	Intermediate
Docker	Docker Containers	Container Based Application Deployment	Intermediate

DevOps	Puppet	Puppet Master & Puppet Agent Configuration, Managing a cluster using Puppet scripts	Expert
	Jenkins	Continuous Integration with Jenkins, Build, Automated Testing, Packaging	Intermediate
	Vagrant	Vagrant Based Provisioning & management of VMs	Expert
	Ansible	Installation, Provioning, Playbooks	Intermediate
	Kubernetes	Deploying & Orchestrating Containers of Docker	Intermediate

Work Assignments:

Previously worked with Tata Consultancy Services (TCS), Bangalore from 27th January 2010 till November 2012 and Bosch India from December 2012 to October 2013. worked on PLM tool customization (TEAMCENTER).The work involves configuring and customizing the tool using ITK in C++ and portal customization in JAVA. Right now involved in Cloud Technologies, Hadoop for Big Data and NoSQL. Have delivered trainings to both internal and external teams and worked as freelance corporate trainer for various clients.

Offered Trainings in Bigdata, Machine Learning, R, Python and cloud computing for both freshers as well as laterals from leading MNCs in India and also to international candidates. Comfortable in training in Online as well as face2face mode and have trained more than 5000 students in the last 7 years.

Recently trained a team of 50 in Machine Learning in R, Python and Big Data in Chennai for a corporate client

Project responsibilities in Cloud includes managing Public cloud account in Microsoft Azure, Google Cloud, Amazoon Web Services and IBM Softlayer. Worked on deploying and maintaining multinode Private cloud within premises of Duratech Solutions using Openstack. For Hadoop, my activities involve multinode Hadoop deployment, ETL process for bringing data into Hadoop, managing HDFS, Hadoop performance optimization, using various Hadoop ecosystem tools like Flume, Kafka, Pig, Hive, Hbase, Zookeeper, sqoop, etc for achieving project requirements. Worked on HDinsight in Microsoft Azure platform and performed complex custom analytics operations in various deployment modes. Used spark for large scale in memory processing for real time threat detection of applications managed and maintained by Duratech Solutions for our global clients. Have effectively used Bigdata to deliver value and Return on Investments for our clients in E-commerce and healthcare domains.

Supported a team to qualify for the Top 10 out of 100 teams of National level Hackathon conducted by Ministry of India(HRD Ministry and Delhi Govt). The project involves an IoT based solution to identify presence of employee at the office hours and send automated alerts to supervisor if employee is absent beyond a threshold of 10 minutes. We designed a solution to use commercially available Raspberry Pi and CCTV camera to receive the video feeds and perform Image recognition using OpenCV and Python to detect presence of employee through Face Recognition and the application can exactly identify upto 10 employees individually from the live video stream. The application works on realtime basis and connects to REST API backend developed in Mean stack using LoopBack. The Raspberry based IoT devices will start the live OpenCV based feed analysis which is called from Python code, also the python application will connect to the defined cloud Backend URL of the LoopBack Meastack REST API to send and receive data, alerts. SMS gateway integration is done to directly send SMS alerts to the supervisor from the information obtained from REST backend. The soluition also includes 2 Android Applications for Admin and employee users for creating employees, sub-Admins, capturing employee data including photos for image recognition which are sent to REST API in loopback. The captured image will be downloaded from the File backend by the python application from REST and will initiate the Face recognition algorithm on this training data.

Work Activities

Managed projects in diverse domains and technology platforms including clients from various countries like USA, UK, Middle East, Australia and Singapore. My work activities in for my current project involves,

1. Currently managing 3 projects in AWS with full High availability design with Auto scaling and Load-balancing configuration. The AWS infrastructure for API backend deployment which is consumed by Web and Mobile Front end. Integrating DevOps tool chain for CI/CD, Source control using Git integration, Deployment automation using Puppet and Chef, AWS cloud formation and cloud init scripts based automation, complete tracking and continuous delivery, testing and deployment for an end-to-end devops based delivery model into out projects. Automated code build using build automation tools like Jenkins and maven, test automation and validation.

2. Performing Data Science activities and deriving value out of our data for our Healthcare and E-commerce clients using Spark, Scala, Python and R. Have done Churn Modeling, sales, Revenue, profits and expenses forecasting, ads targeting, and other personalization related Data Analysis. Have performed sentiment analysis on reviews and feedback, built a recommendation engine for product suggestions for E-commerce solutions.

3. Identifying customer churn and finding reasons for churn through Machine learning in various platforms and languages.

4. Applied all concepts of Machine learning using both Supervised and Unsupervised learning methods in Regression(Linear, Multilinear, Polynomial, SVR, Decision Trees, Random Forrest), classification in Logistic, Naïve Bayes, Support Vector Machines(SVM), Decision Trees, Random Forrest, KNearest Neighbours(KNN), Clustering using KMeans, Dimensionality reduction using PCA, LDA. Have worked on Neural Network based machine learning using various platforms like R with H2O, Python with Theano, Tensorflow and Python. Machine Learning in Spark using MLLib in the bigdata environment.

5. Built a Sentiment analysis Engine as a Project and integrated the same with Front End application developed in Flask. Developed the project deployed and Delivered with a team of 3 from diverse domains and managed the application in AWS Cloud.

6. Have worked on all activities involved in Data Science from Data Collection, statistical and exploratory data analysis, cleaning(Outliers detection, elimination and Missing Values handling, smoothing) and preprocessing, data distribution analysis, plotting and visualizing the data. Sharing the knowledge gained to internal and external teams, projecting value in data and overall solution to clients and getting approval for project go ahead. Machine learning algorithm implementation, validation of accuracy, sensitivity and specificity, time and computational expense calculation. Arrive at most optimal solution for the Data Science projects and deployment, solution validation and automation.

7. Absorbed and Introduced Mean Stack development technology stack into my company and successfully transferred knowledge to the development team. Have taken complete responsibility to deliver a project using the various components of Mean Stack platform including Node.js, Angular.js, Express.js, MongoDB, LoopBack for REST API creation, integrating the new API to the existing mobile apps in Android and iOS. Creating roadmap to ccompletely migrate the application to Full stack technology stack

8. End-to-end Solution plan creation for a mobile based Taxi booking application similar to the likes of Ola or Uber.

9. Responsible for choosing the Server platform(Spring), Web server(Tomcat), cloud platform(Microsoft Azure), Mobile platform(Android), API platform for Maps based Geo services(Google & ISRO), Enterprise search platform(Elastic Search) and robust scalable databse(MongoDB).

10. Development of Server side logic in Spring framework with MongoDB as the database backend and exposing the same as a REST based service.

11. Designing the IAAS deployment model in the Microsoft Azure cloud platform for server sizing, OS platform, etc for each of the components.

12. Android mobile application development for the client side including the use of Geo services like maps, location based search etc. Currently evaluating other Full stack development technologies including in Python and Node based platforms.

In Cloud computing my work activities include,

1. Evaluate and deploy of softwares in Public cloud and Private cloud options available and selecting suitable cloud platform for customer requirements.
2. Public Cloud - Deploy and manage applications in Azure or AWS cloud Service, storage accounts, VMs, SQL, managing Autoscaling, loadbalancing, etc.
3. Deploying and managing applications for global access, configuring Autoscaling, Autohealing, loadbalancing, monitoring for issues, performance and cost. Deployment for targeted cost and performance best suited for the applications.
4. For Private Cloud use OpenStack and manage various components of OpenStack including Compute, Networking, Hypervisor, Storage, Orchestration, Images, service, Dashboard, etc
5. Create on premise private cloud in the customer's infrastructure.
6. Managing the entire cloud infrastructure for the client on an SLA based support.
7. Deployed application in the cloud for pure mobile based front end and managed end-to-end analytics for the application data by deploying and managing Hadoop cluster with seamless dataflow between the Application and Hadoop.

My work activities in Big Data Analytics include,

1. Deploying components of Hadoop and selecting the deployment Architecture. Choosing enterprise edition of Hadoop based on client needs either Hortonworks HDP platform or CloudEra based on the client needs and preferences.
2. Manage HDFS, Map Reduce framework & Yarn
3. Installation & Configuration of test environment of Hadoop in a VM, prepare for production deployment, prepare hadoop parameters for optimal configuration, load testing with scaled down data.
4. Multinode Installation, Performance tuning, Advanced administration activities, Monitoring the Hadoop Cluster. Deployment using Ambari for Hortonworks HDP platform, monitoring, node commissioning and decommissioning, etc for administration using Ambari
5. Writing MapReduce programs in Java, Pig Latin, Hive queries. Performing Log analysis and generating reports using Click Stream analytics
6. Managing data flow into and out of Hadoop using Sqoop, log data collection using Flume and streaming data integration using Kafka
7. Deploying, managing Hbase columnar NoSQL database, NoSQL Integration, Running Hadoop in the cloud in Microsoft Azure HDInsight
8. Exploring Other Components of the Hadoop ecosystem.
9. Delivered recommendation solution, log and SQL data analysis using Hive & Pig, Sentiment Analysis using Hive and spark, Real time threat detection using web logs and web forms data using Spark Streaming, Flume and Kafka
10. Integrating Bigdata to other tools and systems used by the clients to create Data Lake forming One Source data of complete enterprise data to derive maximum knowledge.

My work activities in MongoDB NoSQL includes,

1. Comparing NoSQL platforms and educating the clients about What is MongoDB
2. Manging and automating CRUD and the MongoDB Shell
3. Datamodel architecture design, Indexing and Schema Design – Sub Documents, choosing when to De-Normalize and when not to De-Normalize, Arrays,etc
4. Choosing MongoDB drivers for client deployment platform and supporting in End-to-End application development using MongoDB, using MongoDB in Java
5. Clustering MongoDB for triple Replication
6. Administering, Performance Troubleshooting, Backups and Recovery, Security

7. Choosing Sharding as per business requirements, Shard configurations, etc.

8. SQL to MongoDB migration from MySQL

9. Used MongoDB as backend using ORM in Java Spring for 3 major software development projects and deployed in production

In PLM I have worked on 2 Data migration projects and currently working on Development and maintenance project. Developed data load utilities which can handle over 20,000 items for a run, BMIDE datamodel management, Offshore administration activities.

My overall activities for the PLM projects are listed below,

1. Created ITK utilities for the projects.
   - Item Type change utility.
   - Dataset Import.
   - Item create utility.
   - Data Export utilities.
   - Creating Server and user Exits DLLs.
   - Workflow Handler registration.

2. BMIDE:
   - Custom Extension Points(Post Actions and Pre actions).
   - Data Model changes changes to business Objects.
   - Addition of New Types.
   - Packaging and deployment of templates.
   - Troubleshooting deployment issues.

3. Created custom queries in Query Builder.

4. PSE:

   Added new custom Menus and Dialogs.

5. My Navigator:

   Added new custom menus and dialogs.

6. Offshore Admin:
   - Installation and maintenance Teamcenter Server, Teamcenter Client.
   - Oracle Server installation, data backup and restoration.
   - FMS configuration and troubleshooting FMS issues.
   - Source control using Visual Source Safe, administration, maintenance of VSS DB and Source Offsite.
   - Management of domain users account.

7. Upgrade of Server code and BMIDE templates from TC 2007.2 to TC 8.3.

8. Command Suppression to suppress menus.

9. Organization and Access manager to provide access based on groups and roles.

10. Kitting of customization into a package and delivery to onsite.

EDUCATION:

Bachelor of Technology: Information Technology (B.TECH).

Summer – 2009   Aggregate 71 %

VLB Janakiammal College of Engineering and Technology, Coimbatore, India.

SOFTWARE SKILLS:

Programming Languages	C, C++, PHP, Java, SQL, R, Python, Scala.
Operating Systems	Windows XP/7/8, Windows Server 2008, Ubuntu Linux 12.04, 14.04, 16.04, 18.04, Contos 7
Software	Openstack, Hadoop, MongoDB, CouchDB, Oracle 8i, 9i, 10, MS SQL, WAMP Server, LAMP, MEAN Stack, Puppet, etc
IDEs	Visual Studio 2005/2010/2012, Eclipse, Spyder, Jupyter, Anaconda, R Studio

EXTRA CURRICULAR

- Obtained an Advance Diploma on Film Animation.
- GNIIT certificate holder
- Explored graphics programming APIs - DirectX 9.0, OpenGL and OpenCV.

STRENGTH

1   Like to take up challenges and work with schedules & deadlines

2   Always eager to learn new things

PERSONAL PROFILE

Date of birth: 21st April 1988
Sex: Male
Marital status: Single
Nationality: Indian

Date: 14 Jun 2018

Place: Coimbatore   **(D.Sai Natarajan)**