



Gopal-Tiwari.github.io



Linkedin.com/in/GopalTiwari2012



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DZone.com/users/2730125/GopalTiwari2012.html



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# Gopal Tiwari

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## Profile

Adroit Open Source and **Big Data enthusiast** working as **Senior Software Engineer** with **VISA Inc.**, having an experience of more than **8 years in product development** with **Scala, Java & C#**. Advanced technical experience on ETL Big Data solutions using **Apache Spark, Hadoop, Kafka, Hive**, ElasticSearch, Logstash, Kibana and Cassandra. Having proclivity towards learning new technologies and languages.

## Languages

Java ●●●●○  
Scala ●●●●○  
C# ●●●●○

## Big Data Stack

Spark Batch ●●●●●  
Spark Streaming ●●●●○  
Apache Kafka ●●●●○  
HDFS ●●●●○  
ELK Stack ●●●●○

## Databases

Hive ●●●●○  
Impala ●●●●○  
Cassandra ●●●●○

## Web Technologies

AngularJS ●●○○○  
Bootstrap ●●●●●  
CSS3 ●●●●○  
HTML5 ●●●●○  
jQuery ●●●●○

## Other Tools/Technologies

Git, Jenkins, ASP.NET, Signal-R,  
Web Sockets, Windows Services,  
REST Services, Shell Scripting,  
Spring, Grafana, Windows,  
Linux, Cloudera, Jgitflow, ScalaTest,  
Eclipse, IntelliJ, Sql, Maven,  
SonarQube, Jacoco, Travis

## Education

B.Tech CSE AKTU – 2012  
Intermediate CBSE – 2007  
High School CBSE – 2005

**Microsoft**  
CERTIFIED  
Professional

**Microsoft**  
Specialist  
Programming in C#

**Microsoft**  
Specialist  
Programming in HTML5  
with JavaScript & CSS3

## Professional Experience (8 Years 1 Months)

**VISA Inc.** as Senior Software Engineer (Oct, 18 – Present)

### ■ VISA Token Services (Tokenization Payment Technology)

(Apache Spark, Kafka, Hive, Scala-Test, HDFS, Scala, Maven)



Tokenization is the next gen payment solution which is going to make online payment frauds almost impossible. Being a core project of VISA it was a high priority project as VISA issued its 1 billionth token in mid-2020. This project was to provide real-time transaction feeds to our live data pipeline.

Volume target was to handle up to 5000 messages per second without fail.

**Responsibility:** Creation of entire architecture and optimization of the flow to handle high scale events data. Spark Structured Streaming was used along with Spark batch for data consolidation. Working on code in **Scala** with **Spark** and **Kafka**.

Unit tests were written to touch at least 90% of coverage. Managed git pull requests, deployments, parallel runs and documentation for this project.

### ■ VISA Travel Predict (Cross-Border)

(Apache Spark, Hive, Scala-Test, HDFS, Scala, Maven)

VISA Travel Predict is a value add product offering, designed to support Visa Issuers in identifying potential travelers in order to facilitate the optimization opportunities for their cardholders.

**Responsibility:** Create and optimize the ETL flow to process data stored in Hive, based on the requirements from product office. Write code in **Scala** with **Spark** framework, Unit tests, and Manage git pull requests. **Tuning & optimization of Spark memory & cores** is one of the critical task for this project due to huge data volume ~150 Billion Records with ~6 TB on disk size

### ■ Account List File Processing

(Apache Spark, Hive, HDFS, Scala, Scala-test, Maven)

This project is used to facilitate proper data for the upstream business applications. It validates & loads fixed length text account files to HIVE. Files are received from banks in order to extract some analytical data for their customers which only VISA offers.

**Responsibility:** Move the file to hdfs and parse the file as **Spark** Dataframe. Majorly task involves writing **Spark & Scala** code to applying transformations on data stored in HDFS file using SparkSQL like lookups, key validations etc.

**IQVIA** as Application Development Specialist (Nov, 16 – Sep, 18)



### ■ PDS (Patient Data Strategy) Adherence & Loyalty

(Apache Spark, Hive, Impala, HDFS, Scala)

PDS is all about extracting insights from TB's of data collected at medical transactional level. Ex. Prescription adherence of a patient, his choice of medical plan, majority or plurality stores etc.

**Responsibility:** Create query builder & framework to validate, upload, schedule and process data stored in **Hive**, based on criteria provided in config files.

# Interests



## Online Articles Published

- Spark On Windows Deep Dive
  - Article Link ([bit.ly/SparkWin](http://bit.ly/SparkWin))
- Build and Install Hadoop on Windows with Native Binaries
  - Article Link ([bit.ly/Hdp4Win](http://bit.ly/Hdp4Win))
  - Video Link ([bit.ly/Hdp4WinV](http://bit.ly/Hdp4WinV))
- Setting Up and Running Apache Kafka on Windows OS
  - Article Link ([bit.ly/KafkaWin](http://bit.ly/KafkaWin))
  - Video Link ([bit.ly/KafkaWinV](http://bit.ly/KafkaWinV))

## Industrial Trainings

- Attended 15 Days LightBend training on Spark & Scala. (2018)
- Training in J2EE with Struts Framework at HP Education Services (2011)
- Six month training in C#, ASP.NET & SQL SERVER 2008 from NIIT (2010)

## Can Speak & Write

- English
- Hindi

## Contact Info



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Code is primarily written in **Scala** using **Spark**. **Tuning & optimization of Spark memory** & cores is one of the critical tasks for this project due to huge data volume.

- Drug Stock Prediction

(Apache Spark, R, Impala, Hive, Spring-Boot, HTML, CSS, Scala, Java, Thrift)

This project was intended to show visualization for future drugs stock to client based on historical consumption pattern of specific molecule. Holt-Winters' seasonal method is used here for Forecasting of seasonal drugs.

**Responsibility:** Develop **Spark** ETL to pre calculate dispensed drug quantity, create a dashboard to show multiple graphs along with **Spring Rest** APIs to pull data from Impala.

Infosys Ltd. & EdgeVerve as Senior Systems Engineer (Feb, 14 –Nov, 16) Infosys

- Infosys Mana

(Apache Spark, ElasticSearch, Logstash, Kibana, MySQL, Kafka, Java, Scala)

Infosys Mana is a knowledge-based AI platform which continuously learns routing logic, resolution processes and diagnosis logic to build a knowledge base that grows and adapts to changes. It contains features like predicting events, bug localization, knowledge modeling and self-healing incidents using its knowledge base.

**Responsibility:** Elasticsearch, Logstash, Kibana, **Kafka**, Visualizations of Dashboards, Metric computation ETL coding for streaming data with **Spark Streaming and Kafka**.

- IADA (Infosys Anomaly Detection & Analytics)

(Apache Spark, Cassandra, Logstash, Kafka, spring, Web Sockets, cubism.js, jQuery, Scala, Java, Thrift)

ADADA is able to show real-time multiple metric graphs and their correlation ranks between different metrics like CPU, Heap or Physical memory uses, etc.

**Responsibility:** Develop Spark streaming application to show real-time metric on dashboard along with Kafka administration, extract Metric from Cassandra and Kafka, Spring Rest, Front End & Web Sockets.

**Bizz Shine Infosystem Pvt. Ltd.** As Software Developer (July, 12 – Feb 14)

- **FriendsMantra.com** (SignalR, asp.net, MS Sql Server, Bootstrap, jQuery)

A Social Networking website with features like chatting, friend request, people search, content sharing, image sharing, photo albums and more.

**Responsibility:** Architecture design, coding, UI & database support for user & admin panel.

- **SaralBusiness.com** (asp.net & MS Sql Server, Bootstrap, jQuery)

SaraBusiness is a Vendor Listing (yellow pages) website where owners can register their businesses & end-user could search by his criteria.

**Responsibility:** Frontend, Backend & Database developer.

## Activities & Awards

- Holding 2 Trade Secrets granted by VISA in Big Data Solutions category.
- Honored with **VISA Archimedes Award** for exceptional innovations in projects.
- Hackathon 2017 genomics project awarded as **Great Investment Idea** at IQVIA.
- **Awarded "Above & Beyond" in IQVIA** for exceptional product delivery.
- Received participation certificate for Capgemini Tech Challenge 3.0 in 2016.
- **Awarded honorable Mention** for Project ElectroSoft in "International Innovative Application Competition" at Geneva, Switzerland **by International Telecommunication Union (ITU)**, Switzerland. ([goo.gl/XIKpYT](http://goo.gl/XIKpYT))
- Selected in National Level Competition-TechTop 2011 in top 18 software projects of India. ([goo.gl/vs5ls7](http://goo.gl/vs5ls7))
- Secured 2nd position in IBM National Software Demonstration Competition in 2012.
- Awarded Gold in Caring Souls Foundation(NGO) for helping cancer victims