

Padmanabhan Vijendran

Big Data Developer / Data Engineer

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Profile

- IT professional with **12 years** of experience in developing applications using **Java**, **Python** and **Big-Data** technologies
- Extensive expertise in working with **Hadoop**, **Spark 3.x**, **Spark Structured Streaming**, **Kafka**, **Hive** and **HBase**
- **Google Cloud Certified - Professional Data Engineer**
- Strong knowledge of **Python** programming and **Machine learning** concepts
- Proficient in **UNIX commands** and **shell scripting**
- Excellent analytical, communication and monitoring skills
- Adaptable to different technologies and eager to learn new concepts quickly

Professional Experience

Lead Data Engineer, *Royal Bank of Canada*

06/2023 – present

Project Details: As the lead developer, I spearheaded the design and development of RBC's End-of-Day Contract (EODc) Compliance Checker tool, leveraging **Java 11**. This tool serves various business sectors within RBC, including Retail and Capital Markets. The Compliance Checker automates the validation of daily contract reports, ensuring they meet both industry and internal standards. It flags any discrepancies, providing a robust solution for quality assurance and regulatory compliance across multiple lines of business.

Toronto, Canada

Roles and Responsibilities:

- **Designed and Developed** the EODc Compliance Checker, a Java-based application that automates the validation of complex daily contract reports across multiple business lines.
- **RESTful Web Services:** Leveraged Apache Spring to implement REST services that trigger the EODc report validation process, enhancing the tool's scalability and user interaction.
- **Agile Collaboration:** Actively participated in Agile sprints, collaborated with Business Analysts to translate business needs into technical requirements, and ensured timely delivery of high-quality product.
- **Quality Assurance:** Fixed bugs expediently while handling enhancement requests, ensuring optimal application performance and client satisfaction.
- **High-Performance Computing:** Employed multi-threading techniques to process voluminous EODc data packages exceeding 200GB, featuring millions of lines in each file.
- **Code Quality & Testing:** Implemented unit tests with an achievement of over 90% coverage, integrated Sonar Lint for code quality checks, and eliminated code smells.
- **Regression Testing:** Developed functional test cases utilizing the Cucumber Framework to prevent regressions and ensure application stability across releases.

- **DevOps Integration:** Optimized Git workflows and CI/CD pipelines, significantly accelerating the release process and increasing operational efficiency.

Senior BigData Developer, Cognizant Technology Solutions - Client: Ford

08/2021 – present
Mississauga, Canada

Project Details: Ford engineers use reports generated by an **ETL** framework to design future cars with low manufacturing costs. We are migrating the **ETL** framework from **Sqoop** and **Hive** to **Apache Spark Structured Streaming** so that engineers can access near **real-time** reports.

Roles and Responsibilities:

- Migrated **ETL** framework from **Sqoop/Hive** to **Apache Spark Structured Streaming** for Ford Engineering.
- Developed **Spark Structured Streaming** application using **pyspark** that **reduced data processing time by 50%** and increased **report accuracy by 20%**.
- Implemented **ETL** pipelines using **Apache Spark, Kafka** and **MongoDB** that enabled engineers to utilize near real-time reports for designing future cars at low manufacturing cost.
- Designed and developed **Java** application to efficiently fetch data from LDAP servers.
- Refactored **Java** applications to improve readability and performance
- Explored new technologies using **POCs** and documented the approaches to implement new project requirements

Senior BigData Developer, Kelly Services - Client: Credit Agricole CIB

03/2018 – 07/2021
Singapore

Project Details: CMT (Cash Management Transactions): Implemented an internal payment engine that handled incoming and outgoing transactions efficiently using **Java 8, Spark structured streaming, Kafka, HBase** and **ELK stack**. Delivered the project following **Agile methodology**.

Roles and Responsibilities:

- Implemented an internal payment engine using **Java 8** and **Spark structured streaming** that processed over 1 million transactions per day.
- Developed an integration layer using **Spark structured streaming** and **Java 8** that enabled seamless communication between the payment engine and other applications
- Designed and built a data pipeline using **Kafka, HBase** and **Spark** that ingested, stored and analyzed transaction data in real-time
- Created **Python** scripts to automate demo tool and performance report generation, reducing manual effort by 50%
- Created custom source and sink connectors for **IBM MQ** using **Spark structured streaming** that improved data reliability and throughput
- Developed **Jenkins** pipelines using **groovy** and **shell scripting** that facilitated continuous integration and delivery of code changes
- Automated functional testing using **Cucumber** framework that ensured high-quality code delivery
- Set up application logs using **ELK** stack and created dashboards for monitoring performance metrics

Big Data Developer, Cognizant Technology Solutions - Client: Ford

02/2016 – 11/2017
Chennai, India

Project Details: I worked on the project that generated reports to help Ford Engineer to design a future cars at low manufacturing cost. We implemented **ETL** using **BigData** tools such as **Apache Spark 2.3, Hive, Sqoop** and **Oozie**.

Roles and Responsibilities:

- Extracted data from various Oracle databases to **HDFS** and **Hive** using **Sqoop** scripts
- Transformed data to the required schema using **Hive** scripts
- Developed **Java** application to generate Excel reports from **Hive** table data using **Apache POI**
- Explored ETL with **Alteryx**, **Apache Spark** using **POCs**
- Automated manual tasks using **Python** and **shell scripts**

IT Analyst, *Tata Consultancy Services - Client: Target, USA*

01/2011 – 01/2016

Project Details: I worked on the project that processed product images and details for Target website using **ETL Java** application and **SQL** scripts.

Chennai, India

Roles and Responsibilities:

- Developed **ETL Java** application to process product information using **Map-Reduce**
- Wrote **SQL** scripts to transform product related data
- Automated manual tasks using **Python**
- Investigated and analyzed application **support incidents** through to root cause and fix
- Proactively monitored services and responded to alerts raised by customers and **monitoring** systems, ensuring the availability and performance of the **Teamsite** Content Management Systems

Skills

Programming Languages

Java, Python

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JAVA EE Frameworks

Spring MVC, Spring Data, Spring Security

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BigData Tools

Apache Spark, Kafka, Hive

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Databases

SQL, MongoDB, HBase

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Machine Learning

Probability and Statistics, Linear Algebra, EDA, Pandas, Numpy, Pytorch, KNN, Naive Bayes

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Cloud

AWS, Azure, GCP

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Automation Scripts

Shell, Batch, Powershell, Selenium

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DevOps

Docker, Kubernetes, Jenkins, Tekton pipelines

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Testing Frameworks

JUnit, Cucumber

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Other Tools

IntelliJ, Eclipse, Git, Gitlab, Putty, ServiceNow, Rally.

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Certificates

- Google Cloud Certified - Professional Data Engineer [↗](#)
- Microsoft Certified: Azure AI Fundamentals [↗](#)
- AWS Cloud Practitioner [↗](#)

Projects

Telegram BOT to Interact with ChatGPT, *Personal Projects*

I developed a telegram BOT [↗](#) to interact with chatgpt using Python 3.11 and OpenAI chatgpt API that supports models - text-davinci-003, gpt-3.5-turbo, gpt-4

Courses

GCP Data Engineering, *Google Qwik-Labs* [↗](#)

Education

Bachelor of Engineering - Electronics and Communication, *Anna University*

2006 – 2010
Chennai, India