RAJALAKSHMI ENGINEERING COLLEGE

DEPARTMENT

Artificial Intelligence and Data Science

TITLE

Finance & Banking-Market sentiment vs price movement

FACULTY

Dr. Suresh Kumar
Professor

TEAM

DAKSH - 231801025
DINESH - 231801034
IRAIYANBU - 231801061

INTRODUCTION

The financial markets are **highly sensitive** to public sentiment and news. Price movements of assets are often influenced by market psychology rather than just fundamentals. However, integrating large-scale market data, **sentiment analysis**, and price trends remains a major challenge due to **data variety, volume, and velocity**. By leveraging cloud based big-data tools, we can address these challenges.

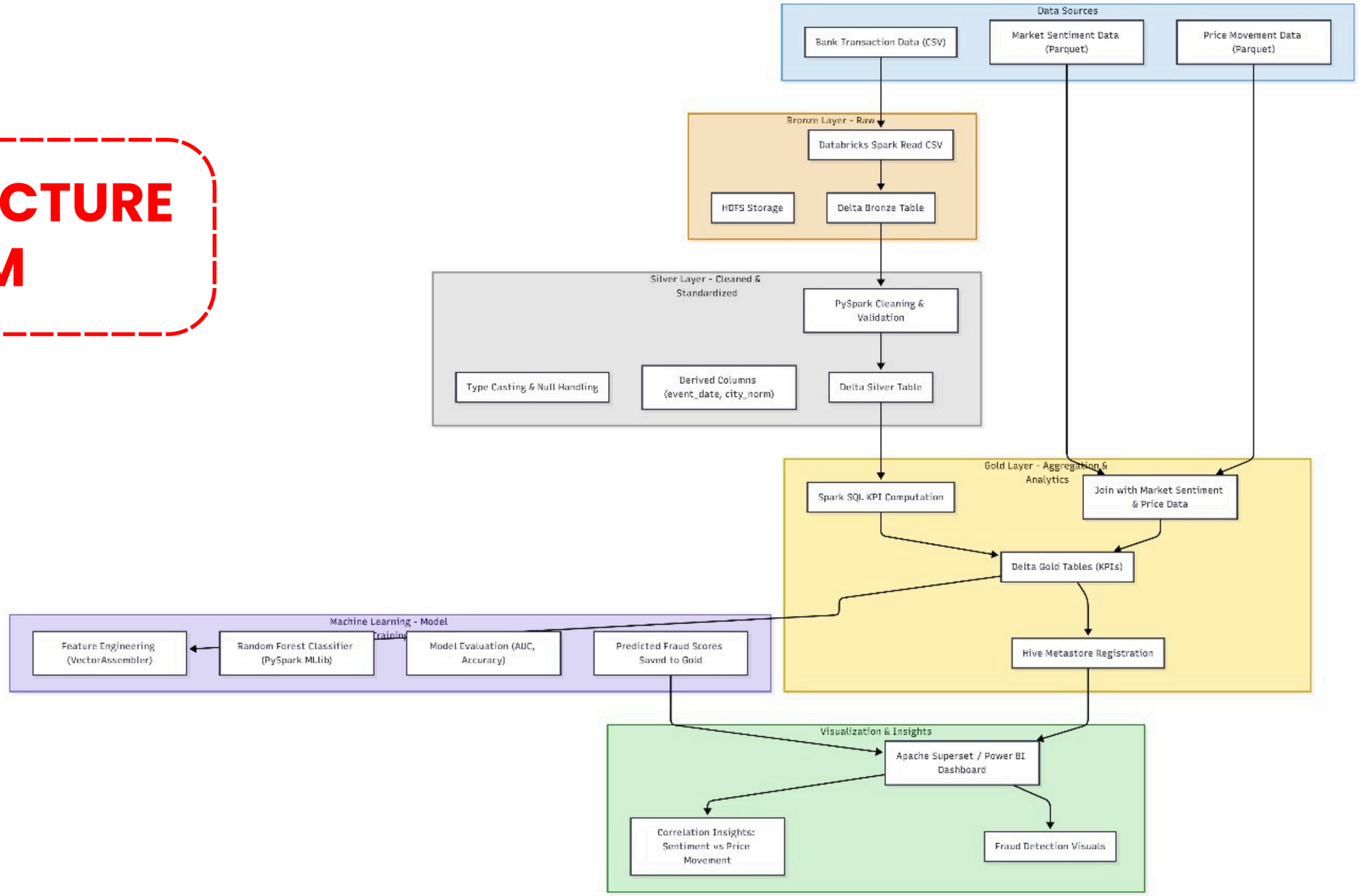
ABSTRACT

This project develops a Big Data analytics pipeline to analyze the relationship between **market sentiment and price movement** in the financial domain. The project demonstrates how modern Big Data architectures can drive data-driven financial insights and predictive business intelligence.

LITERATURE SURVEY

Previous studies focused on crop yield prediction using traditional ML models, with **limited integration** of climatic and soil data. The use of Big Data frameworks like **Spark** is emerging for **deeper agricultural insights**. However, gaps remain in real time and region specific analysis, which this project addresses through a **data driven, scalable approach**.

ARCHITECTURE DIAGRAM



MODULES

Data Collection

Importing and storing raw datasets, from various sources

Visualization

Showing performance metrics via graphs

Analysis Module

Running algorithms to find resilient seed varieties

Preprocessing

Cleaning, type conversions and preparing data for analysis

IMPLEMENTATION

- Data imported into **Databricks workspace.**
- Used **PySpark** for preprocessing and feature extraction.
- Applied **Random Forest**
- Visualized outputs using Databricks notebooks and **Matplotlib**.
- Evaluated **accuracy and consistency** across different regions.

RESULT

- Identified **KPIs** with for analysis and insights
- Model accuracy: **~97.87%**
- Graphs show clear trends .
- **Visualization dashboards** help in real-time decision support.

CONLCUSION

- **Big Data analytics** can effectively identify climate resilient seeds.
- Supports **sustainable Market movement** and improves decision making.
- **Databricks** provides a powerful platform for large scale data analysis.

Thank You