Project Title	Financial Crime Analysis
Technologies	PowerBI/Tableau
Domain	Finance
Project Level	Difficult
Organization	INeuron Intelligence Private Limited

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1. Problem Statement:

Financial institutions around the world are turning to data science to combat crime and manage compliance due to the changing nature of crime and a quickly expanding regulatory landscape.

The global financial crisis of 2008 altered the course of history. It had an impact not only on the financial industry, but also on other industries and enterprises around the world. The crisis exposed ineffective policies that resulted in severe fractures that threatened to bring the global financial system to its knees.

Technological advancements, and new capabilities to understand enormous volumes of data can help to analyze and formulate the best approach to identify flaws and appropriate interventions techniques to reduce financial crime.

AI, machine learning, and automation, among other advanced analytics and cognitive techniques, can help to filter out false positives and improve inefficiencies in existing investigation processes. Data and analytics have the potential to not only improve efficiencies and save operating costs, but also help identify intelligence-led and data-driven approaches to combating financial crime.

Dataset:
https://drive.google.com/file/d/1KxBXQZbAN-6kGrRx3yOwndoYeInnhyTV/view

Content
There are 3 datasets mentioned here: alerts, transactions and accounts.

Accounts dataset: Contains the information about all the bank accounts whose transactions are monitored.
Alerts dataset: Contains the transactions which triggered an alert according to AML guidelines.
Transactions dataset: Contains the list of all the transactions with information about sender and receiver accounts.

Perform detailed analysis using a given dataset present your finding for AML based on the dataset and also suggest ways to identify or mitigate financial crime.

2. Project Evaluation metrics:

2.1. Code:

- You are supposed to write code in a modular fashion
- Safe: It can be used without causing harm.
- Testable: It can be tested at the code level.
- Maintainable: It can be maintained, even as your codebase grows.
- Portable: It works the same in every environment (operating system).
- You have to maintain your code on GitHub.
- You have to keep your GitHub repo public so that anyone can check your code.
- Proper readme file you have to maintain for any project development.
- You should include basic workflow and execution of the entire project in the readme file on GitHub.
- Follow the coding standards.

2.2. Database:

MongoDB is a source-available cross-platform document-oriented database program. Classified as a NoSQL database program, MongoDB uses JSON-like documents with optional schemas.

2.3. Cloud:

You can use any cloud platform for this entire solution hosting like AWS, Azure or GCP

2.4. API Details or User Interface:

You have to expose your complete solution as an API or try to create a user interface for your model testing. Anything will be fine for us.

2.5. Logging:

Logging is a must for every action performed by your code, use the python logging library for this.

2.6. DevOps Pipeline: Build complete Continuous Integration, Continuous Testing, and Continuous Deployment pipelines for multi stage such as test environments and production environment. Docker containers/ Kubernetes cluster must be used for deployment of applications.

2.7. Deployment:

Implementation of reverse proxy, load balancing, and security group is mandatory for deployed applications.

2.8. Solutions Design:

You have to submit complete solution design strategies in HLD, LLD, and Wireframe documents.

2.9. System Architecture:

You have to submit a system architecture design in your wireframe document and architecture document.

2.10. Optimization of solutions:

Try to optimize your solution on code level, architecture level, and mention all of these things in your final submission.

Mention your test cases for your project.

3. Submission requirements:

3.1. High-level Document:

You have to create a high-level document design for your project. You can reference the HLD form below the link.

Sample link: HLD Document Link

3.2. Low-level document:

You have to create a Low-level document design for your project; you can refer to the LLD from the link below.

Sample link: LLD Document Link

3.3. Architecture:

You have to create an Architecture document design for your project; you can refer to the Architecture from the link below.

Sample link:Architecture sample link

3.4. Wireframe:

You have to create a Wireframe document design for your project; refer to the Wireframe from the link below.

Demo link: Wireframe Document Link

3.5. Project code:

You have to submit your code to the GitHub repo in your dashboard when the final submission of your project.

Demo link: Project code sample link

3.6. Detail project report:

You have to create a detailed project report and submit that document as per the given sample.

Demo link: DPR sample link

3.7. Project demo video:

You have to record a project demo video for at least 5 Minutes and submit that link as per the given demo.

Demo link: Project sample link

3.8. The project LinkedIn a post:

You have to post your project details on LinkedIn and submit that post link in your dashboard in your respective field.

Demo link: Linkedin post sample link