Hackathon Challenge

AI Driven Entity Intelligence & Risk Analysis

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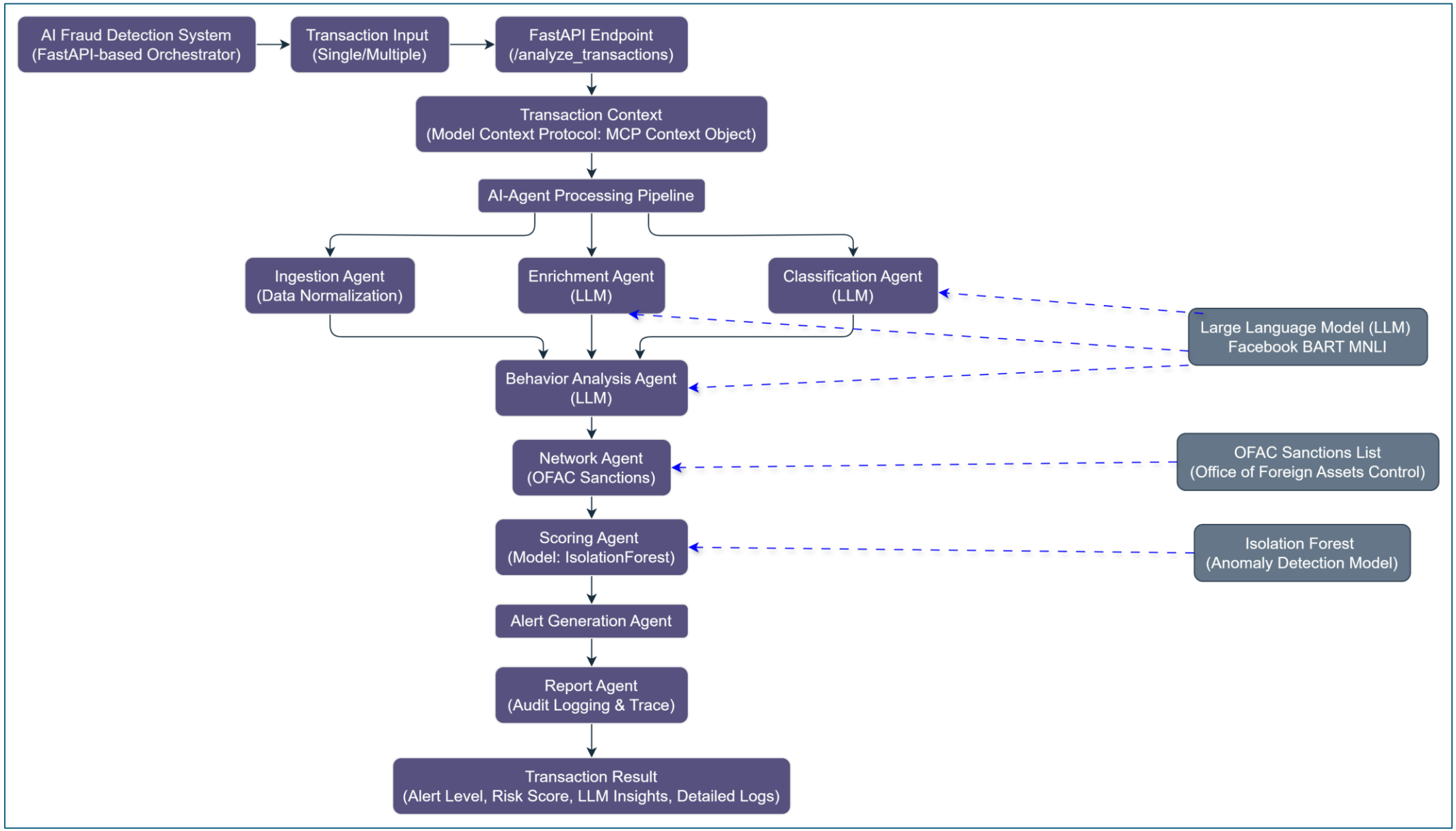
GitHub Repository: aidel-solo
Github URL: https://github.com/ewfx/aidel-solo

Overview

The AI Fraud & Risk Detection System is a modular, scalable architecture with following highlights:

- FastAPI
- AI agents to detect risky or fraudulent financial transactions with following integrations:
  - LLMs
  - OFAC sanctions checks
  - Anomaly detection via Isolation Forest.
- Provides Swagger support for backend APIs
- Uses Streamlit UI for end users

Architecture



Key Components

- FastAPI Orchestrator
- Transaction Context using MCP Object
- AI-Agent Processing Pipeline:
  - Ingestion Agent (Normalization)
  - Enrichment Agent (LLM)
  - Classification Agent (LLM)
  - Behavior Agent (LLM)
  - Network Agent (OFAC)
  - Scoring Agent (Isolation Forest)
  - Alert & Report Agents

Technologies Used

- FastAPI (API Layer)
- HuggingFace Transformers (LLMs - BART MNLI)
- Scikit-learn (Isolation Forest)
- OFAC Sanctions List (Data Source)
- Pydantic, YAML for Config Management
- Loguru for Logging
- Modular Python Agent Architecture

Output: Transaction Analysis Result

- Alert Level: Low / Medium / High
- Risk Score: 0 to 1
- LLM Insights: Behavior and Classification
- OFAC Match: True/False
- Anomaly Score
- Audit Log & Trace ID