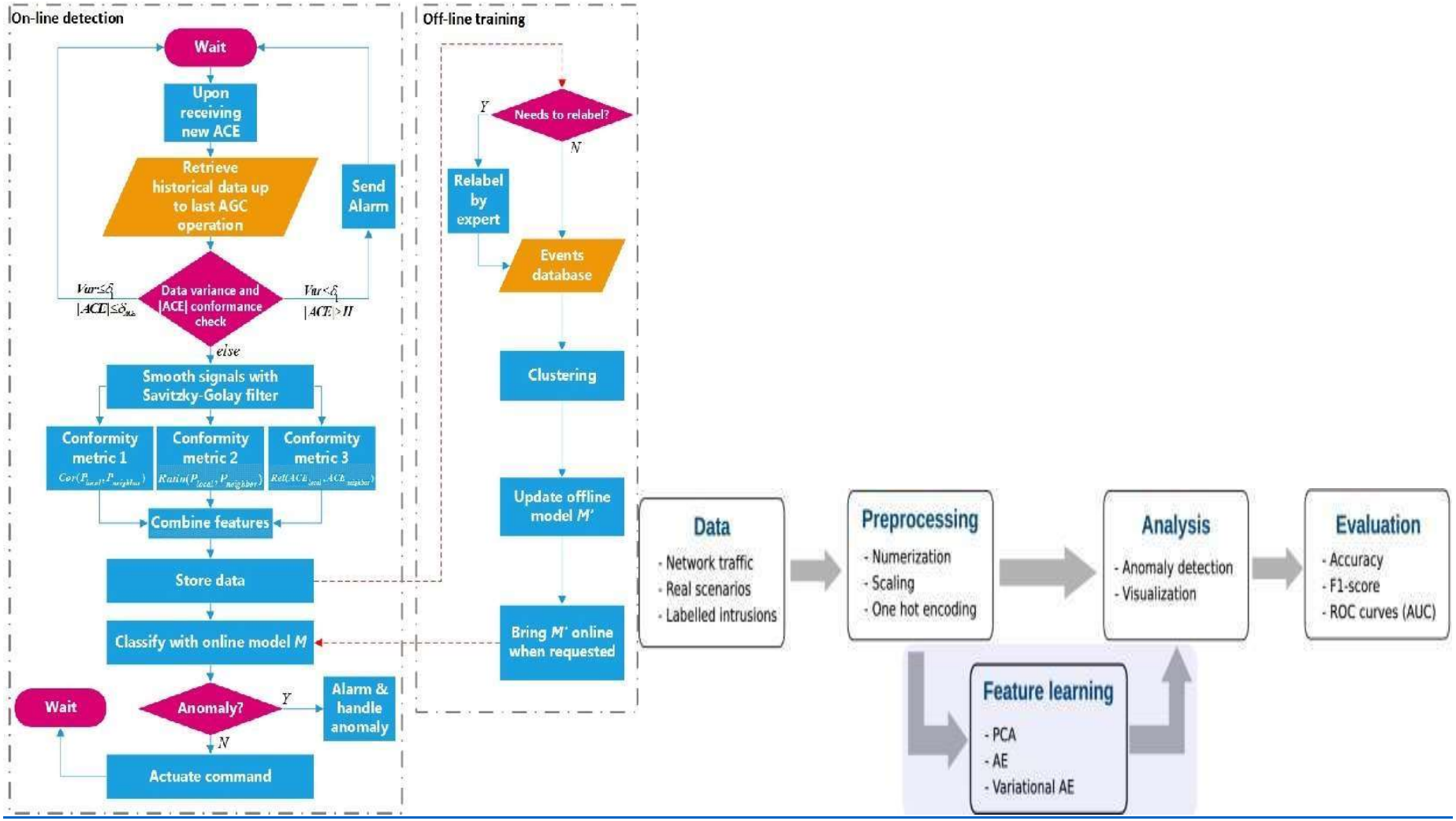
Project Design Phase-II
Data Flow Diagram & User Stories

Date	25 October 2023
Team ID	4.3
Project Name	Network Anomaly Detection
Maximum Marks	4 Marks

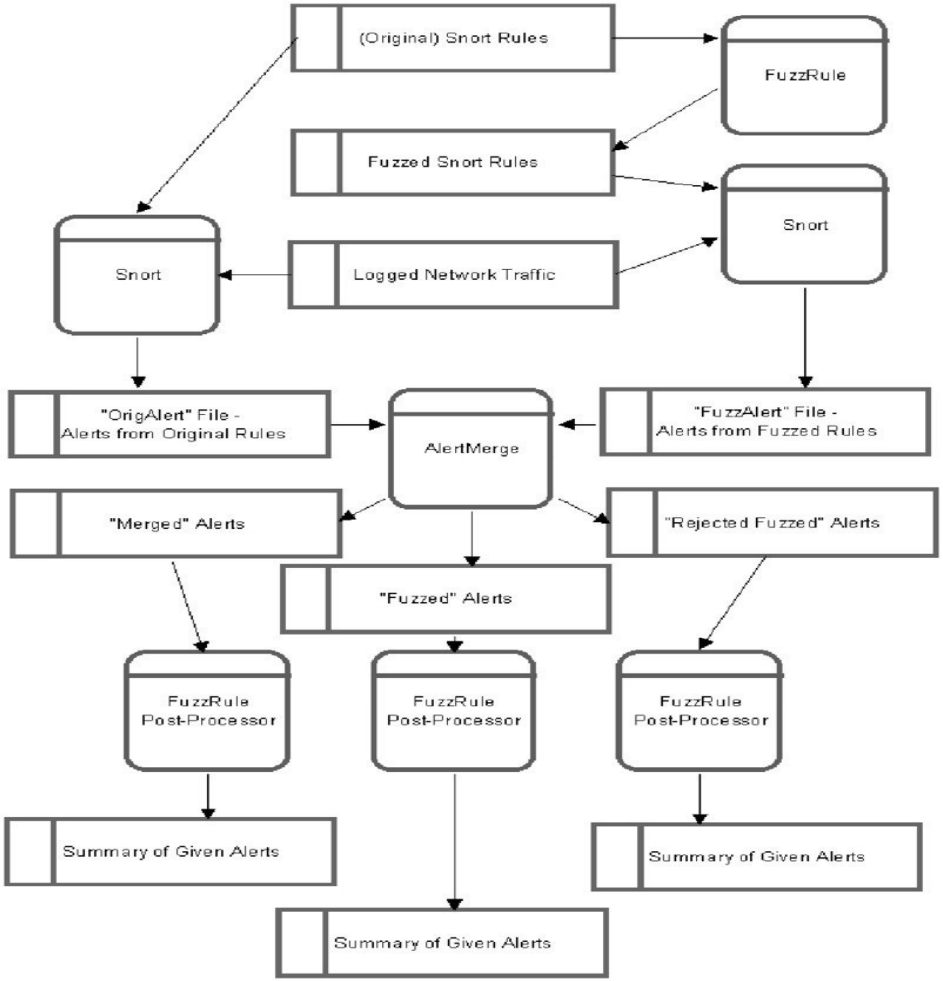
Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

Data flow chart:



DFD Level 0 (Industry Standard)



User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Network security analyst	The system must be able to train a machine learning model to detect anomalous network traffic patterns.	USN-1	As a network security analyst, I want to use machine learning to detect anomalous network traffic patterns that may indicate a security breach. This would allow me to identify and respond to security threats more quickly and effectively.	• The machine learning model must be able to detect anomalous network traffic patterns with an accuracy of at least 95%. • The model must be able to generate alerts for detected anomalies within 10 seconds. • The model must be able to be trained on new data without disrupting existing operations.	High	Sprint-1
Network engineer	The system must be able to train a machine learning model to detect and troubleshoot routing problems.	USN-2	As a network engineer, I want to use machine learning to identify and diagnose network performance issues. This would allow me to improve the quality of service for my users and reduce the amount of time spent troubleshooting network problems.	• The machine learning model must be able to identify and diagnose network performance issues with an accuracy of at least 90%. • The model must be able to generate recommendations for resolving identified issues. • The model must be able to be integrated with existing network management tools.	High	Sprint-1

Financial services company	The system must be able to pre-process and extract features from the collected financial market data.	USN-3	As a financial services company, we want to use machine learning to detect fraudulent transactions in real time. This would help us to protect our customers from financial loss and reduce the risk of fraud.	• The machine learning model must be able to detect anomalous network traffic patterns with an accuracy of at least 95%. • The model must be able to generate alerts for detected anomalies within 10 seconds. • The model must be able to be trained on new data without disrupting existing operations.	Medium	Sprint-2
Healthcare provider	The system must be able to generate alerts for detected cyberattacks.	USN-4	As a healthcare provider, we want to use machine learning to detect anomalous medical device data that may indicate a patient's health is deteriorating. This would allow us to intervene early and prevent serious medical complications.	• The machine learning model must be able to identify and diagnose network performance issues with an accuracy of at least 90%. • The model must be able to generate recommendations for resolving identified issues. The • model must be able to be integrated with existing network management tools.	Medium	Sprint-3
Manufacturing company	The system must be able to generate alerts for detected anomalies.	USN-5	As a manufacturing company, we want to use machine learning to detect anomalous machine sensor data that may indicate a potential equipment failure. This would allow us to schedule preventive maintenance and avoid costly unplanned downtime.	• The machine learning model must be able to detect anomalous network traffic patterns with an accuracy of at least 95%. • The model must be able to generate alerts for detected anomalies within • 10 seconds. The model must be able to be trained on new data without disrupting existing operations.	High	Sprint-4