TOPIC:

Building a real-time data streaming pipeline for IoT sensor data: Integrating data quality monitoring and anomaly detection.

TEAM MEMBERS:

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ROLES & RESPONSIBILITIES:

- Pipeline & Processing - Jay Jajoo
- Data Quality Monitoring - Asmita Chetlapalli
- Data Anomaly Detection - Jyothssena Gomatum Sreenivaasan

WHY THIS TOPIC:

There are billions of Internet of Things (IoT) devices generating massive amounts if data constantly. Processing the data efficiently is vital to making the best use of it.

Numerous IoT applications, including smart homes, industrial automation, and healthcare monitoring, necessitate real-time data analysis to deliver actionable insights. A strong data streaming pipeline would improve the immediate processing and analysis of sensor data.

Maintaining high data quality is critical for accurate analysis and good decision-making. By incorporating data quality monitoring into the pipeline, it becomes easier to identify problems such as missing, duplicated, or erroneous data, which can lead to incorrect inferences.

Anomaly detection is crucial in recognizing unusual patterns or behaviors in IoT data that may signal malfunctions, security breaches, or other events. Integrating anomaly detection mechanisms would ensure quicker response to potential problems.