Hydraulic System Anomaly Detection

Capstone Project Report - Big Data Storage and Processing

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- **Goal:** Transition to **Predictive Maintenance**.

Kubernetes Networking Challenges

- **Kafka Advertised Listeners:**
  - Pods have dynamic IPs
  - Fixed using StatefulSet + Downward API

Key References

[1] P. E. Helwig, N. Helwig, and A. Schütze, *Condition Monitoring of Hydraulic Systems*, UCI Machine Learning Repository, 2015.

[2] Student Team, *Capstone Project Report: Hydraulic System Anomaly Detection*, HUST, Dec 2025.

Thank You!