



US Defense, Healthcare, Auto-motive, Space sciences Turning Data Into Profit



#### Team Composition:

3 Software Engineers  
1 QA Engineer  
1 Project Manager



#### Project Duration:

3 months  
(fixed scope)



#### Tech Stack:

Python, Apache Spark, Pytorch, Machine Learning, K-native, MLflow, Airflow, Kubernetes, Redshift, Tensor

## Project Overview

OmniTeq's customizable platform, AThENA, is a **data ingestion and processing platform** that integrates data lake management, ETL pipelines, and machine learning to handle structured and unstructured data. It enhances real-time analytics, automates workflows, and improves decision-making across business domains.

## Business Challenges

- **Uncleaned raw data** preventing accurate analytics.
- **Lack of workflows** to track and control GPS sensor anomalies.
- **Privacy concerns** limiting the use of healthcare data for analysis.

## Solutions Delivered

- **Used LLM & NLP** to clean raw data for improved accuracy.
- **Built robust ETL pipelines** to ensure data consistency and transformation.
- **Trained SVM models** to detect GPS anomalies in real-time.
- **Anonymized healthcare data** to ensure privacy while enabling analysis.
- **Optimized model performance** with hyperparameter tuning for real-time anomaly detection.
- Developed a **serverless model** to streamline deployment and scale data processing.

## Results & Impact

- **95% Accuracy** Achieved in Data Preprocessing
- **70% Increase** in Data-Driven Decision-Making
- Real-Time Anomaly Detection Enabled
- Enhanced Data Consistency with **Automated ETL Workflows**
- **Scalable Solution** to Handle Large Data Volumes
- **Boosted Operational Efficiency** by Reducing Manual Errors

## Conclusion

- **Techverx delivered a scalable, secure, and high-performing data processing platform for Athena**, enabling real-time anomaly detection, accurate analytics, and operational efficiency.