# **Project Goal**:

Ingest stock prices and financial news, perform sentiment analysis, correlate with price movements, and deliver business insights.

It centers on continuously monitoring stock prices while simultaneously extracting and analyzing opinions from news articles, social media feeds, and other text sources. The result is an integrated insight system that correlates market movements with public sentiment in real time.

A diagram of a software company

AI-generated content may be incorrect.

## Key Features

1. Real-time ingestion of stock prices and financial news using Azure Event Hubs
2. Sentiment analysis using FinBERT
3. Transformations using Delta Lake tables (Bronze → Silver → Gold)
4. Correlated insight between sentiment trends and market movements
5. Interactive visualization in Power BI

## Outputs:

1. Company-wise sentiment score vs. price chart
2. Correlation heatmaps between sentiment shift and price movement

## Tech Stack:

|  |  |
| --- | --- |
| **Layer** | **Technology** |
| Ingestion | NewsAPI.org, Polygon.io, Azure Event Hubs |
| Storage | Azure Data Lake Storage Gen2 + Delta Lake |
| Processing | Databricks PySpark + Structured Streaming |
| Enrichment | FinBERT (HuggingFace Transformers) |
| Modeling | dbt on Databricks (Bronze → Silver → Gold) |
| Reporting | Power BI |