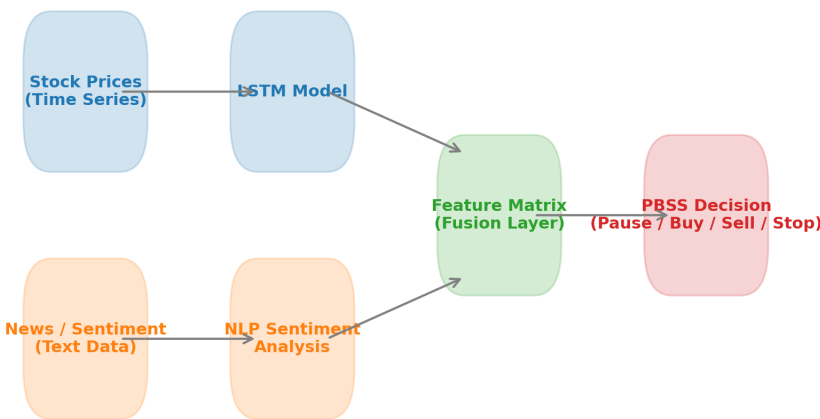# Stock Forecasting with LSTM + NLP Sentiment

This project integrates quantitative time series modeling (LSTM) with NLP-based sentiment analysis to generate trading decisions. Numerical features from historical stock prices and sentiment scores from news are fused into a **Feature Matrix**, which is mapped to a PBSS framework (Pause, Buy, Sell, Stop) for actionable investment signals.

Multi-Modal Quant Model: LSTM + NLP → Feature Matrix → PBSS Decision

Ticker	Predicted Return	Sentiment	Action
AMZN	+2.3%	Positive	Buy
TSLA	-1.5%	Negative	Sell
AAPL	+0.4%	Neutral	Pause
MBG.DE	-0.7%	Negative	Stop

Key Highlights:
• Multi-modal integration: LSTM for time series + NLP for sentiment
• Actionable decision matrix: PBSS (Pause, Buy, Sell, Stop)
• Enhanced interpretability: model explanations with SHAP and Attention heatmaps