The TradingRecommendationBot is a sophisticated tool designed to analyze news events and generate actionable trading recommendations based on historical data. Utilizing Natural Language Processing (NLP) techniques such as TF-IDF Vectorization and cosine similarity, the bot compares new news events with a dataset of past events to identify relevant similarities. It then aggregates the scores of these events to generate a recommendation—whether to "BUY," "SELL," or "HOLD" a particular stock. This recommendation is based on pre-set thresholds, ensuring that decisions are data-driven and aligned with historical trends. For instance, the bot processes news about "Tech companies reporting strong earnings amid economic uncertainty" and suggests a trading action based on past similar events and their outcomes.

Beyond its core recommendation function, the bot also includes a backtesting feature that leverages a large language model (LLM) to assess the accuracy of its past recommendations. By querying the LLM with specific past recommendations, it evaluates whether those decisions were correct, thus adding a layer of accountability and continuous learning to the system. This feature ensures that the bot not only provides real-time recommendations but also learns from historical performance, making it an invaluable tool for traders seeking to balance immediate action with long-term strategy.