

# AI Stock Sentiment Analyzer & Translator

## Description

The **AI Stock Sentiment Analyzer & Translator** is an intelligent automation agent designed to empower financial decision-making. It fetches real-time stock news via API, utilizes Generative AI to analyze market sentiment (Buy/Sell), and translates the rationale into a user-specified global language. The final analysis is automatically exported to a CSV or Excel file for easy reporting.

This bot eliminates the manual effort of reading financial news and translating insights, making it ideal for global financial analysts and traders.

## Key Features

- **Real-time News Fetching:** Connects to any standard news API to retrieve the latest data for specific stock tickers.
- **AI-Powered Analysis:** Uses a Generative AI Skill to determine "Buy" or "Sell" sentiment based on news content.
- **Multi-Language Support:** Translates recommendations and reasoning into any user-selected global language (e.g., Hindi, Spanish, German).
- **Flexible Reporting:** Exports the final analysis to either **Excel** or **CSV** formats based on user preference.
- **Interactive User Form:** Provides a simple interface for users to input configuration details without modifying the code.

## Components Included

Component Name	Type	Description
Stock Analyzer Agent	Process / Agent	The master agent that orchestrates the entire workflow by triggering the user form and sub-tasks.
Stock_News_Analyzer_User_Form	Form	An interactive interface collecting the API URL, Stock Ticker, Target Language, and Export Format (CSV/Excel).
Fetch_News	API Task	Connects to the provided API URL to fetch raw news data and passes it to the AI Skill for processing.
Generate_Sentiment	AI Skill	The Generative AI model configured to analyze the news and return a JSON response with English and Translated recommendations.

Component Name	Type	Description
Download_Data_To_CSV_Excel	Task Bot	Handles file creation and data writing. Depending on the user's choice, it saves the output to .csv or .xlsx.

## Process Flow

1. **User Input:** The user launches the **Stock Analyzer Agent** and fills in the **Stock\_News\_Analyzer\_User\_Form** (Ticker, Language, API URL, Export format).
2. **Validation:** The bot validates the inputs provided in the form.
3. **Data Retrieval:** The **Fetch\_News** task calls the specified API to get the latest raw news data for the ticker.
4. **AI Analysis:** The raw data is sent to the **Generate\_Sentiment** AI Skill.
  - o The AI analyzes the sentiment.
  - o The AI translates the recommendation and reason.
  - o The AI returns a structured JSON containing: `Ticker, English Recommendation, English Reason, Translated Recommendation, Translated Reason`.
5. **Data Compilation:** The agent parses the JSON response.
6. **Export:** The **Download\_Data\_To\_CSV\_Excel** task creates the output file and writes the structured data including a DateTime stamp.

## Prerequisites

- **Automation Anywhere A360** (v.25 or higher recommended).
- **Generative AI License:** Access to Automation Anywhere AI Skills (connected to OpenAI, Azure OpenAI, or Google Gemini).
- **Internet Access:** Required for API calls and AI processing.
- **Microsoft Excel:** Required if the "Excel" export option is selected.

## Input & Output

### User Inputs (Form)

- **API URL:** Endpoint URL for the financial news source.
- **Ticker Name:** The stock symbol to analyze (e.g., AAPL, RELIANCE).
- **Translation Language:** Select from a dropdown of global languages (including Indian regional languages).
- **Export Format:** Radio button or Dropdown to select "CSV" or "Excel".

### Bot Output

A file saved in the default output directory containing the following columns:

1. **DateTime:** Timestamp of the analysis.
2. **Ticker:** The stock symbol analyzed.

3. **English Recommendation:** Buy / Sell / Hold.
4. **English Reason:** The logic behind the recommendation in English.
5. **Translated Recommendation:** Recommendation in the selected language.
6. **Translated Reason:** Logic in the selected language.

## Setup Instructions

1. **Import:** Download the bot file and import it into your Automation Anywhere Control Room.
2. **Configure AI Skill:**
  - Navigate to the **Generate\_Sentiment** AI Skill.
  - Ensure your LLM provider (e.g., OpenAI/Azure) API Key is correctly configured in the Connection tab.
  - *Note: The prompt logic is pre-configured to output specific JSON keys.*
3. **Run:** Open **Stock Analyzer Agent** and click Run.
4. **Fill Form:** Enter the required details in the pop-up form and submit.
5. **Review:** Check your local `My Docs/Bots/Output` folder for the generated report.

## Troubleshooting

- **JSON Error:** If the bot fails to parse data, ensure the AI Skill is returning valid JSON. Check the prompt instructions in the AI Skill configuration.
- **API Failure:** Ensure the API URL provided in the form is valid and accessible from the machine running the bot.

---

**Disclaimer:** This bot provides analysis based on AI interpretation of news and should not be taken as professional financial advice. Always verify data before trading.