# AI Trading Bot Project

The goal of the AI model is to create a sophisticated framework that can generate Expert Advisor based on learned strategies from diverse sources (YouTube, Google Search and other text resources) and give you the best EAs on the current case and also capable to implement that strategy as well as give the prediction of future forex prices.

## Project Milestones

Data Preprocessing

1. Data Ingestion
2. Data Cleaning
3. Data Transformation
4. Data Normalization

Natural Language Processing and Text Analysis

1. Text Data Ingestion models for data scrapping:
    1. YouTube Videos
    2. Internet Forum
    3. News Articles
2. Text preprocessing models for:
    1. Tokenization
    2. Stopword Removal
    3. Stemming and Lemmatization
    4. Removal special characters and punctuations
3. Named Entity Recognition (NER) model for:
    1. Indicators
    2. Risk Management Strategies
    3. Market Trends
4. POS model
5. Dependency Parsing
6. Sentiment Analysis
7. Topic Modeling
8. Information Extraction

Machine Learning Models

1. Regression models (Linear & Multiple Linear)
2. Feature Engineering
3. Model Selections to predict future prices
    a. Decision Trees
    b. Random Forest
    c. XG Boost
    d. Support Vector Machine

Deep Learning models for complex predictions based on the indicators, some other factors as well as for the expert advisor strategies.

1. Neural Networks
2. RNN
3. CNN
4. LSTM
5. GAN

Strategies Generation

1. Expert Advisor Generation
2. Strategy Optimization based on NLP and Deep Learning models
3. Expert Advisor Evaluation based on real data

Framework Development

1. Frontend Development
2. Backend Development
3. Application Programmable Interface (API) Development

Testing and Validation

1. Unit Testing
2. Integration testing