Market Trend Analysis

Walmart Price Forecasting

UNIVERSIDAD POLITÉCNICA DE YUCATAN
DATA ENGINEERING
11/17/2023
DATA 6B
DATA MINING - **CESAR ORLANDO CORREA CASTRO**

Introduction

This project analyses and forecasts WALMEX stock patterns using Data Mining techniques. The goal is to create a model that can tell precisely price fluctuations and pinpoint the best times to enter, exit, and stop loss using CRISP-DM framework.

Project Objctive

Develop a Data Mining Model to analyze market trends and predict future prices of WALMEX stock, aiming to identify optimal moments for entry and exit, as well as to determine effective stop levels.

Specific Objectives

- Collect and process historical price data of WALMEX.
- Implement trend analysis of algorithms and price forecasting models.
- Identify patterns indicating optimal entry and exit points for the stock.
- Establish criteria for an effective stop loss based on historical volatility and trends.
- Validate and adjust the model with recent data to ensure accuracy and relevance.

Architecture Plan

Data Collection

Data processing and analysis

Predictive Modelling

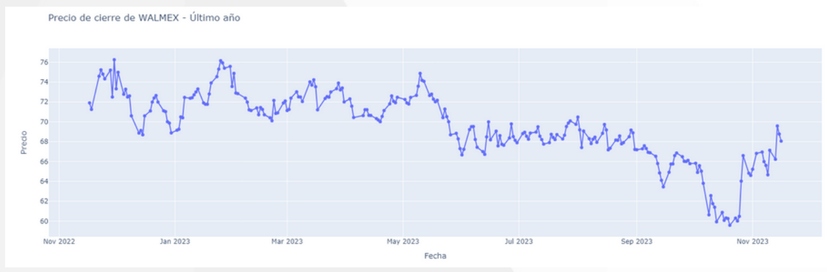
Strategy Development

Implementation and monitoring

Current Work

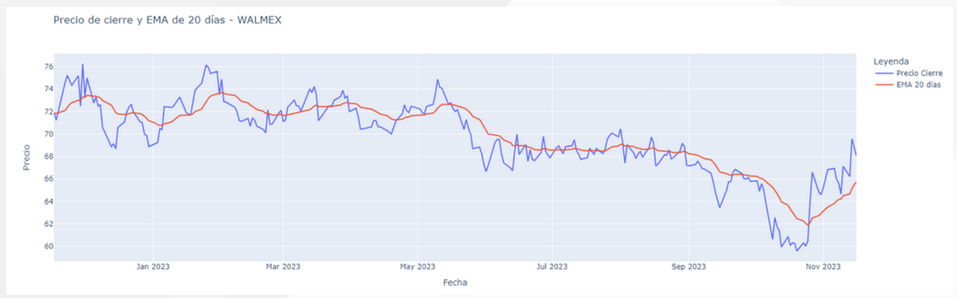
1. Stock Price Charting

- Visualized the time series of WALMEX's closing prices.
- Provides an initial overview of market trends and fluctuations.)



2. Calculating and Charting the Exponential Moving Average (EMA

- Implemented EMA to smooth out the price series and highlight long-term trends.
- EMA overlaid on the price chart for direct comparison.



3. Analyzing Variation (EMA/Closing Price Ratio)

- Calculated the variation as the division of EMA by the closing price.
- This metric helps identify potential oversold or overbought points.

Key Steps To Be Followed

Identify instances where the variation (EMA/Closing Price ratio) results in negative values, indicating potential points of interest for our trading strategy.

1. Choosing the Most Pronounced Negative Value

Detailed Analysis: We will select the strongest negative value among these results. This value will serve as a critical benchmark in our analysis.

2. Comparative Evaluation and Further Selection

Comparative Review: We will compare each negative result with this benchmark value. The goal is to select those negatives that are lower than the most pronounced negative value, thereby identifying key points for potential trading actions.

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