TITLE

Sentiment Analysis of Social Media Data for Predicting Cryptocurrency Market Behaviour

DESCRIPTION  
This project will investigate the interplay between sentiment on social media and the evolution of cryptocurrency market indicators. First, we will use data from Reddit and Twitter to characterize the evolution of collective sentiment towards cryptocurrencies, focusing on a set of widely traded assets. Using Natural Language Processing, we will aim to identify emotional attitudes such as fear, frustration, joy and sadness. We will then quantify the interaction between market behavior and sentiment dynamics in the cryptocurrency market, using time-series analysis techniques (e.g. Granger Causality). Finally, we will develop a predictive algorithm based on deep and reinforcement learning, and informed by historical market data (prices, volumes and shares) as well as by the sentiment data. We will backtest the algorithm with historical data and evaluate its performance against simple baseline strategies and existing approaches in the literature.