Predicting Crypto-Currency Price Movement Using Deep Learning Techniques

# Introduction

The rapid proliferation of cryptocurrencies and digital assets worldwide has significantly transformed traditional financial landscapes, driven by increasing digitization, the shift towards paperless transactions, and instability in conventional fiat currencies such as the US dollar. This surge in cryptocurrency adoption, characterized by extreme price volatility and market dynamism, presents substantial challenges for investors, traders, and financial institutions aiming to effectively predict price movements and make informed investment decisions.

This paper proposes a predictive modelling approach utilizing recurrent neural networks (RNNs) to forecast short-term cryptocurrency price fluctuations, specifically predicting whether prices will rise or fall on a given day. The model incorporates historical price data, trading volume, market indicators, and external features such as social media sentiment to deliver binary classification outcomes—"1" for anticipated price increases and "0" for expected declines. Such a predictive framework aims to equip stakeholders with actionable insights, enabling enhanced decision-making amidst the cryptocurrency market's inherent volatility.

# References