# Crypto-Currency Price Prediction using CNN and LSTM Models



## Paper Summary

SUMMARY PASSAGE 1

### Section 1

The trained model is tested agians part of dataset and can be evaluated for self analysis and to improve the learning system. The objective of proposed system is to find more effective model for price prediction and price forecast thorough deep learning models. The main objective is to arrive the price prediction with high accurate values, which can aid the investors on making their decision on investments.

SUMMARY PASSAGE 2

### Ii. Related Work

The dataset used in this study from 2013 to 2019 data. For the test dataset, the author used 7 days data for price predictions. ARIMA model has shown better predictions on price.

SUMMARY PASSAGE 3

### Iii. Proposed Work

The proposed work is implemented for Bitcoin price prediction and Forecast for five days from the dataset extracted real time from quandl.com. As deep learning models are more power than machine learning models, the proposed work used Convolutional neural Network (CNN) and Long Short Term Memory (LSTM) models for prediction and price forecast. The below figure shows the overall methodology of proposed approach.

SUMMARY PASSAGE 4

## A. Real Time Dataset Collection

Bitcoin is similar stock traded in NSE (national stock exchange) in India. Whereas the nse stock can be traded in India only. The Bitcoin can be traded by all over the world as it is distributed.

SUMMARY PASSAGE 5

## B. Dataset Visualization

The large the dataset, the more the accuracy for prediction. Hence the Bitcoin is traded from 2011, we collected from 2011 and to the current date, Figure 2, Visualization of the bitcoin prices with 1000 ticks are shown below.

SUMMARY PASSAGE 6

## C. Convolutional Neural Network (Cnn)

The given dataset is split around 80% as training set and around 20% as test set. The train set is used to train our neural network model, whereas using test set the predictions are done, they are compared with the original values to get accuracy and error metrics. The CNN applied on our dataset is depicted in above figure, Figure 4, in which the input column is considered is Open, High, Low, Close value of dataset.

SUMMARY PASSAGE 7

## D. Long Short Term Memory (Lstm)

Recurrent neural network is the best network for stock price predictions. The below figure shows the LSTM architecture for bitcoin price predictions. Every deep learning models has three layers namely input layer, hidden layer and output layer.

SUMMARY PASSAGE 8

## Iv. Results And Discussions

The experimental result done and evaluation metrics are arrived from the above models are discussed here. The proposed work shows CNN algorithm is effective in price prediction. The proposed model outperforms existing in price prediction.

SUMMARY PASSAGE 9

# V. Conclusions

Bitcoin, one the major crypto currency, with highest market capital among all other crypto-currencies. Prediction of prices accurately and price projects helps investor and traders, aiming this the proposed work for Bitcoin price prediction with Convolutional neural Network (CNN) and Long Short Term Memory (LSTM) models is done. Price project for five days through Convolutional neural Network (CNN) and Long Short Term Memory (LSTM) models is provided in the work.