

CHAPTER 1

INTRODUCTION

1.1 Background

Investment is an asset or item acquired with the goal of generating income or appreciation. Basically it is a way to save wealth in other form and gain profit from it. There are so many ways to invest in this era, for example stocks, commodities, forex. There are many people investing for their future or to save their savings from inflation and many other factors.

This project focuses on Cryptocurrency. Cryptocurrency is one type of investment. Cryptocurrency is a decentralized virtual money which means that the transaction is only between the buyer and seller and the government is not in charge within the currency. The advantage of investing in Cryptocurrency is the price is much more fluctuative and the profit that can be gain from the Cryptocurrency can be multiplied more than 100% in short time and the way how to have transactions in Cryptocurrency is more easier compared to the stocks as in the stocks maret, the investors need broker to invest on certain products. Broker is the person who manages all the transaction between the buyer and the exchange. The main objective of this project is to predict the outcome of the coin's price condition.

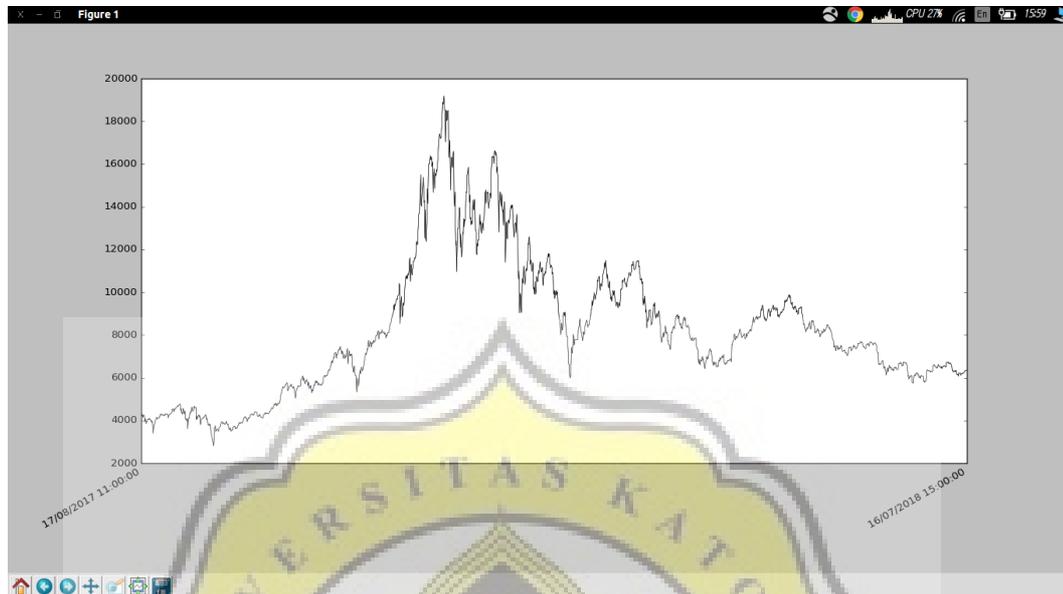


Figure 1.1: BTC/USDT 4H timeframe Chart

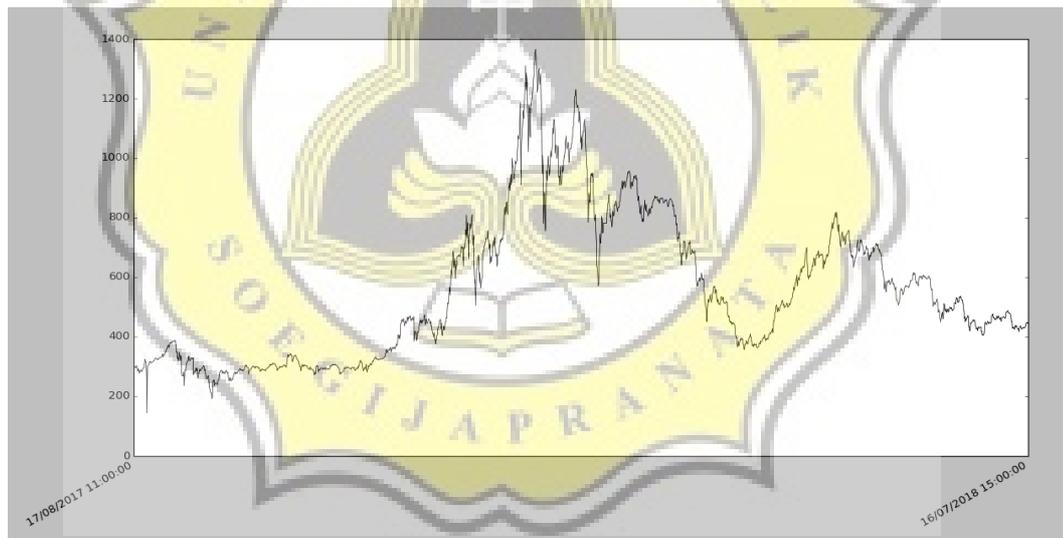


Figure 1.2: ETH/USDT 4H timeframe Chart

There are 2097 products which each might consists of approximately 3000 data in cryptocurrencies and it is going to be tough for the investor to forecast all data manually. The data in cryptocurrency is fluctuative and the pattern of the price could change overtime it can be seen in Figure 1.1 and Figure 1.2. BTC is one of the most popular product in cryptocurrency with highest rank amongs the other products. USDT is another product in cryptocurrency that it price follows

the price of US Dollar, This project will use BTC/USDT in binance exchange with 4 hours timeframe as the main data in ANN training sample. Binance is one of the most popular exchange that trade in really high volume. ANN is the abbreviation of artificial neural network it is an A.I. algorithm that has been proven with high accuracy in forecasting and recognising pattern. The sample data that going to be used to train neural network in this research is the RSI generated data. RSI stands for Relative Strength Index is one of the most popular indicator that used in technical analysis to get the average value of the price.

There have been many researches of predicting the price of product like stocks, commodities (types of investment) and etc using artificial neural network. To the best of my knowledge, there is none of any research trying to predict the cryptocurrency using ANN. The difference between the price movement of the stocks and cryptocurrency is that the price movement in cryptocurrency is much more volatile and fluctuative. The price of a product could goes down as lower than 50% or goes above 50%, for the example with BTC price in 2009 which only costs about \$5 each coin by date 2018-11-04 the price of the BTC worths \$6286 which mean the price of BTC has been multiplied by 1257 times.

1.2 Scope

The scope of the problems discussed in this study are :

1. The data used in this project is cryptocurrency's price.
2. RSI generated data as training sample.
3. Implementing Artificial neural network as the main algorithm to predict the outcome of the price.
4. Finding the differences of the prediction output between sigmoid and tanH activation function.

1.3 Objective

The objective of this project is to research how accurate artificial neural network is in forecasting the price condition in cryptocurrency market by comparing the two activation functions sigmoid and tanH.

