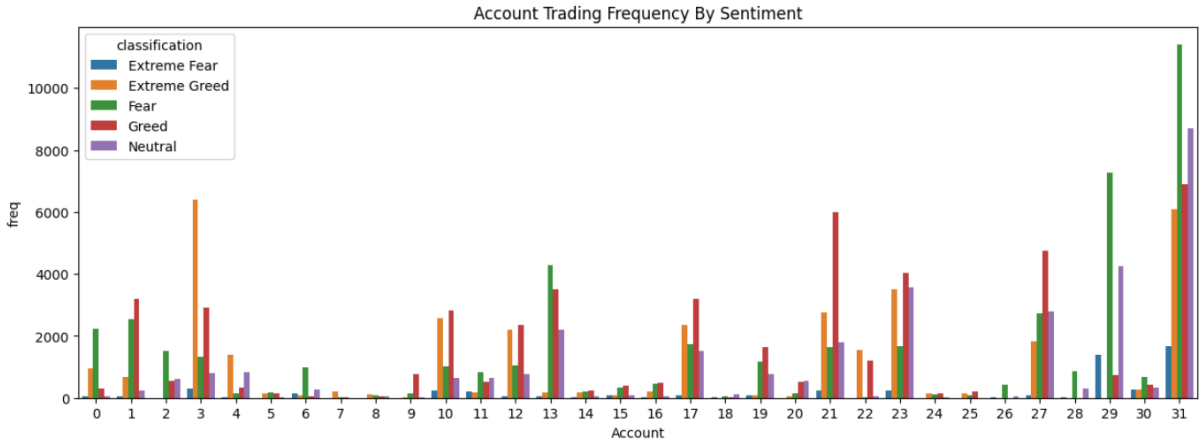
Trader behaviour insights

The data contains transaction details of different coins such as coin name, account number, position size, size in UD dollars, profit and loss from transactions, unique trade ID. In main dataset there are two tables one table contains transaction details and other table contains sentiment on particular date. On this dataset details exploratory data analysis is performed and based on analysis insights and recommendations are formulated.

Important Insights:

Closed pnl, win rate and leverage, closed pnl, long short ratio and number of transactions of accounts on greed days and on fear days is varying.

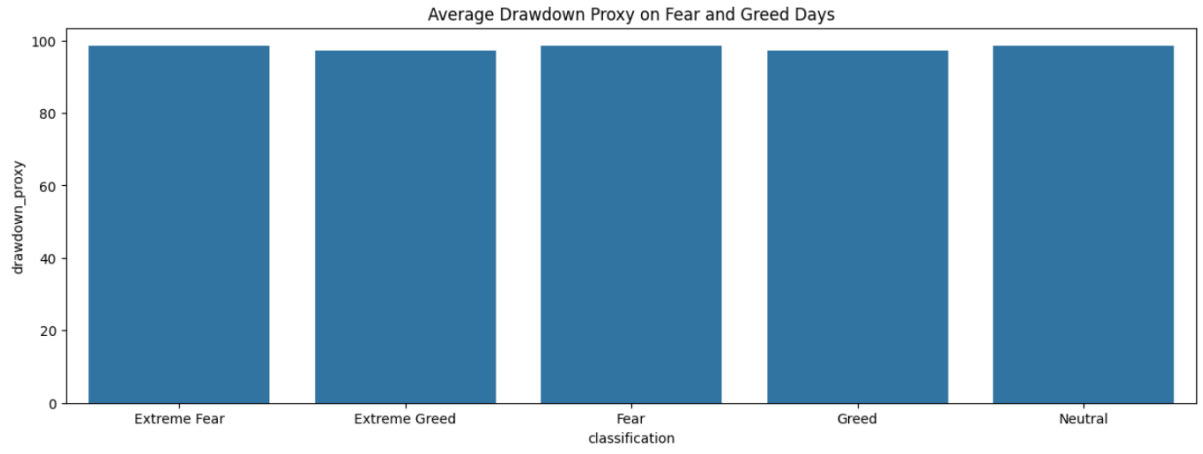
For example



From the above chart we can see that trading frequency of accounts is varying on fear and greed days.

From the below graph we can say that on greed days drawdown proxy is less than that on fear days which also signifies that on greed days there is more profit than on fear days.

There is not much variation in these values but still this insight can be useful to formulate trading strategies for traders.



Average size of the transaction on extreme fear and greed days is comparatively less than on normal fear and greed days which signifies that traders are more cautious on extreme days.

classification	Size USD
Extreme Fear	3816.440098
Extreme Greed	3265.794510
Fear	7153.414717
Greed	5848.453393
Neutral	4641.500274

If we consider position size of transaction on fear and greed days for each account then we can say that trader behaviour does vary on fear and greed days. On greed days traders tend to buy more and on fear days traders tend to buy less and sale more.

Upon segmenting traders based on the average daily transactions they do in three categories like less frequent, moderately frequent and more frequent then there are more number of traders in less frequent category as shown in below table.

segment_freq	count
less freq	13
moderately freq	10
more freq	9

Strategy Recommendations based on analysis:

1. From the findings we have seen that drawdown proxy on fear days is more than on greed days and win rate, PnL is more on greed days than on fear days so we can recommend traders to do less transactions on fear days or buy less on fear days. If the fear day continues and value of coin is continuously falling then traders should sell on fear days to avoid further losses on their coins based on sound judgments, market understanding and history of particular coin.

2. Trading frequency of traders on greed days is more as compared to trading frequency on fear days which means market is performing well and traders are doing more number of

transactions on greed days. Therefore investing in coins which have performed well in past will be more safer than in coins which shown greater volatility/losses in the past.

3. Position size, leverage and long/short ratio on fear days is more as compared to on greed days. On fear days traders mostly sell bad performing coins and that may be the reason why these values are high on fear days than on greed days. If traders are selling their coins on fear days, we can recommend them to wait for some time to understand in which direction the market is going and if the same conditions persist then it will be more suitable to sell the coins and if the market shows signs of improvement then it will be more advisable to hold the coins. In these conditions we need to have better judgment and closely monitor the situation to avoid major losses in future.

Forecasting model, Prediction model and transaction clustering:

Cat boost model is used for predicting transaction profit and loss from transaction and account parameters this model is giving root mean squared error of 270 on test set and 130 on train while Sarimax forecasting model is giving root means squared error of 107 on test set, time series model is performing well as compared to cat boost model to predict profit and loss.

Kmeans clustering model is used for segmenting transaction into different segments, number of clusters are selected based on within cluster sum of squares.