Research Statement

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Introduction

The BTCUSD(T) is a 24h, high volatility market. In many occasions this volatility can be explained, in others it can be anticipated.

This research will extract the information held in derivatives market in order to explain some of this volatility. By identifying the specific clusters in our data, where the probabilities of predicting the BTCUSD price can actually be computed, we will devise and backtest a trading strategy.

Thesis Research

There are several keypoints that need be researched in order to partially explain the high volatility of crypto markets.

- The extend to which derivative (especially when leverage is used) can explain short term volatility.
- Identify retail activity.
- To which degree, the *hunt for liquidity*, can create volatility.
- Prediction of liquidation events.
- Prediction of price direction during periods of low volume in the spot market.
- Explore the degree to which the derivatives market hold information about onchain activity.
- Find heavy-tailed distributions that can model intraday returns, based on well-selected samples.
- Examine regime-switching models for examining 2 (or more) regions of volatility.

This research should identify further inefficiencies of the BTC market that can be modeled and capitalized upon, when incorporated into a trading strategy.