**Background:**

The recent shutdown of Silicon Valley Bank has caused regional and community banks to lose $120 billion, according to Federal Reserve data. However, depositors still have faith in big banks. As a result, Roundhill Investments launched a new ETF called The BIG Bank ETF (BIGB), which is designed to provide concentrated and cost-efficient exposure to the largest and most liquid U.S. bank stocks.

**The BIG Bank ETF (BIGB)** is an exchange-traded fund launched on NASDAQ on Mar 21, 2023, and is managed by Roundhill. BIGB provides a targeted exposure to the six largest U.S. banks: Bank of America, Citigroup, Goldman Sachs, JPMorgan Chase, Morgan Stanley, and Wells Fargo. The fund is equally weighted, re-balances quarterly, and reconstitutes on an annual basis. BIGB carries an expense ratio of 0.29%.

**Project - An application to Assist Users in Understanding the BIG Bank**

**Objective**

To develop an application that can provide assistance, with the power of Machine Learning, to users who are interested in gaining a deeper understanding of the BIG Bank

**Data Source**

As the BIGB is a relatively new investment option, there is limited data available to individual users for evaluation purposes. To address this issue, we will be utilizing a hypothetical data set based on the performance of the six stocks included in the BIGB. The Yahoo Finance will be used as the primary data source for this project. It is important to note that our analysis assumes that no quarterly re-balancing or annual reconstitution occurred during the historical period we are examining.

**Outline**

1. Utilize unsupervised machine learning clustering algorithms to determine which reward/risk segmentation the BIGB ETF belongs to.
2. Use time series analysis to identify trends and seasonality in the data.
3. Compare the trading algorithms powered by 3 machine learning models for BIGB.

**Next steps**

1. Continuously optimize and improve the neural network model for better accuracy and performance.
2. Develop an application for users to gain a deeper understanding of any new product they are interested in.
3. Add a module to the application to enable users to compare the analysis report of a new ETF to a similar ETF that has been launched previously and has sufficient actual data.