**Hypothesis**

Algorithmic investing in an index fund provides diversity and the possibility of making investing decisions easier and more consistent with market trends.

(<https://www.businessinsider.com>) “According to a 2020 report, over 15-year period, nearly 90% of actively managed investment funds failed to beat the market.” Algorithmic investing in an index fund can not only provide diversity but also make investment decisions easier and possibly more consistent with market trends. I intend to formulate a machine-learning algorithmic approach that will use 40+ years of historical **monthly** data (independent variable) to invest in an S&P 500 index fund.

Further Details

* Daily S&P 500 returns accumulated monthly
* Use regression analysis to decide on the best 2-3 investment cycles (buy-sell) per year.
* Use 60-80% of the data for machine learning purposes and the remainder for testing.

1. What is your question?
   * Is algorithmically investing in index funds easier than investing in a single stock?
2. What are you changing?
   * Method of investment (index funds or single stock)
3. What are you measuring?
   * How much money you make in each (use multiple single-stock funds to get the average, but don’t use an index for that.)
4. What prompted your research?
   * I was wanting to learn more about the stock market, investing, and making money, so that is why I decided to do this project.
5. What is the rationale?
   * The purpose of this project is to make it easier for people to invest in the stock market.
6. Write a hypothesis stated in an “If …then…” format,
   * If you algorithmically invest in an index fund, it would not only provide diversity in the stocks you are investing in, it will also make investment decisions easier and potentially more consistent with the stock market.