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Jewon Yoo* (nycrick@gmail.com), Cresskill, NJ , and **Richard Kyung**, Cresskill, NJ. *Study on the Forecasting of Stock Market Using Statistical and Computational Analysis.*

Even though it is noted that the US fundamentals remain strong and that the central bank is not prepared to use additional stimulus measures aside from rate cuts, Wall Street closed deeply in the red on a volatile session, as an emergency rate cut by the Federal Reserve failed to ease concerns of slower growth ahead due to the coronavirus outbreak.

To find the underlying trend or fluctuation of an economic data, such as stock market, multiple types of data and other indices need to be collected over time. Because these data sets display change as time progresses, time series analysis is necessary to be able to analyze such sequential data by using math, statistics, and computation. For time series analysis and forecasting, this research used the a distribution method and the concept of return periods to map out how frequently certain data values appear.

In this paper, computational tools were used for the time series analysis. Since this data requires a proper statistical method in which the fitting model exactly matches the data, least squares method was used to minimize the sum of the squares of the deviations between the assumed model and the actual data. (Received March 04, 2020)