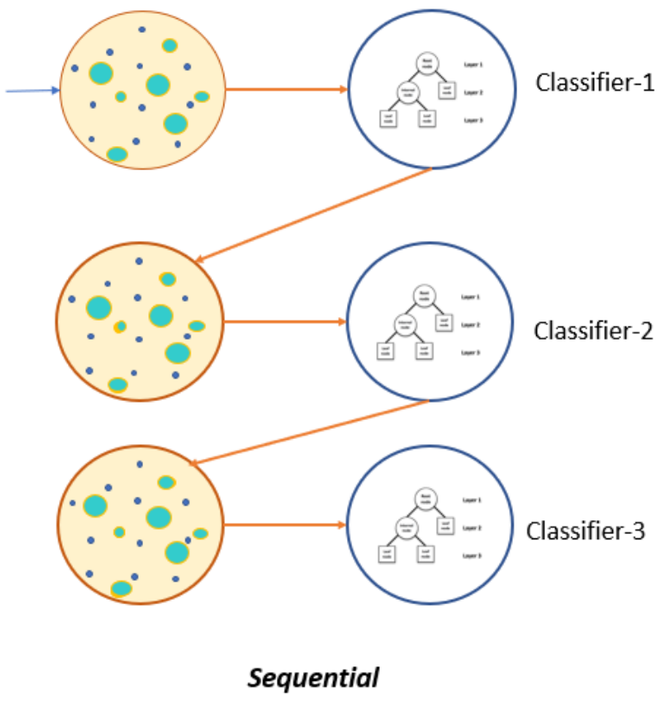
NANYANG TECHNOLOGICAL UNIVERSITY
SINGAPORE

School of Computer Science and Engineering
College of Engineering

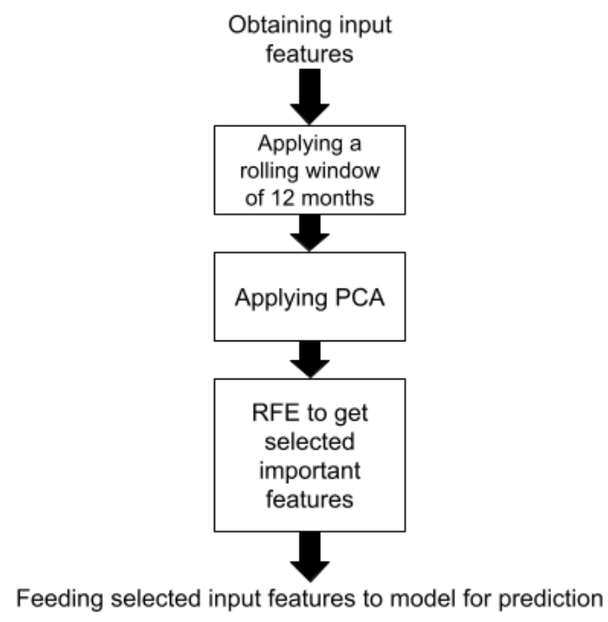
Feature Selection

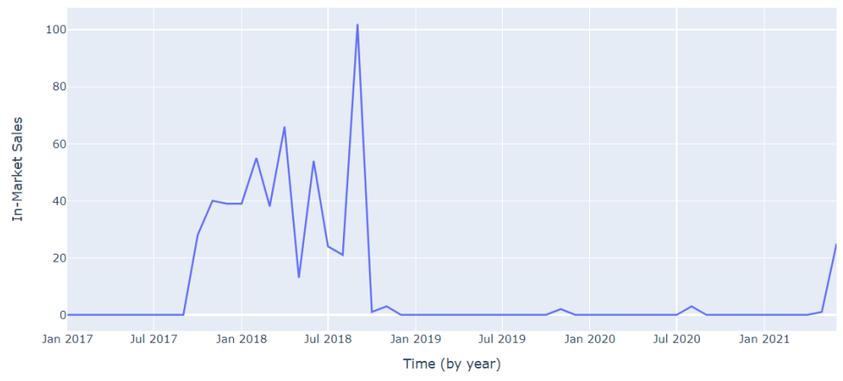
For Demand forecasting incorporating external covariates

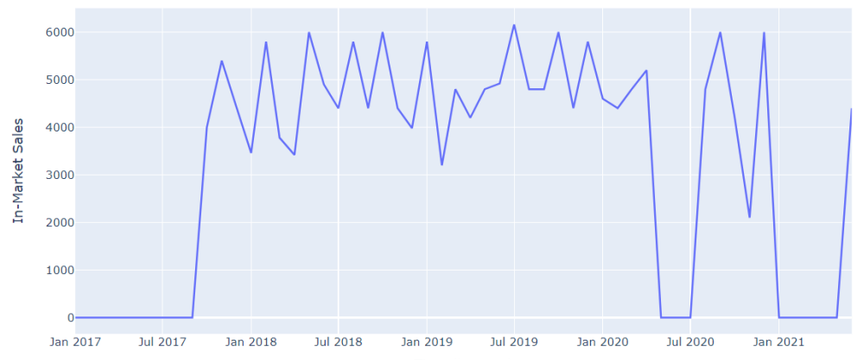
Student: Raghav Mantri Supervisor: Jagath Rajapakse



Sequential







Project Objectives:

In this project, we propose a method for prediction with external covariate features, by utilising a moving time window over the external covariates. Then, using Principal Component Analysis, we dimensionally reduce each covariate's window so that their time lag characteristics are preserved, and finally perform feature selection on it. This novel approach enhances the prediction accuracy for more than half the products under examination, while preventing the curse of dimensionality.

1. Rolling window of 12 time periods is applied to each search keyword
2. PCA used to dimensionally reduce feature set
3. Recursive feature elimination is used to get the best subset

Feature sets