**Weekly Report - 7**

**CSE 523 Machine Learning**

Group Name: **Mavericks**

**Store Sales – Time series Forecasting**

| **Group Members** | **Roll No.** |
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1. **Task Performed in the Seventh week:**

* Completed the Feature Engineering.
* Worked on the modeling part using various approaches.

1. **Outcome of the task in the Seventh week:**

* Completion of the feature engineering:

1. We created a deterministic process of period of last 5 months with an additional Fourier calendar component.
2. Then, we merged all the data frames for the period of last 5 months.
3. As the periodicity manifested at more than one time-scale so, depending on our data, we tried to decompose a timestamp column in multiple columns such as month, day, day of week and if it is a school day.
4. Then for the work day we created a feature based on the different type of holidays.

* Modelling part using different approaches:

1. Initially, we split the data in train, validation and test dataset based on the time period.
2. We tried fitting a model in our dataset using a linear regression.
3. We faced some error while fitting the model using linear regression.
4. The model was assuming the linearity between dependent and the independent variable.
5. Tried solving the linearity in the model for the linear regression.
6. **Task to be performed in the next week:**

* Solving the errors and will try to fit the model using linear regression.
* Exploring other algorithms which may best fit to our data.