**FERM 6320 Spring 2019 Final Project Description**

For your final project, you must create and solve your own predictive modeling problem. All aspects of the modeling process must be performed from scratch. Here are the steps you must describe and perform:

* **Problem identification:**

Identify a problem or situation where a predictive model would be useful. A good problem will attempt to predict future events that are interesting and for which good data exists and is accessible. Keep in mind

* **Data gathering:**

What data exists about your problem? What data is relevant to the problem? Who owns the data? How can you access the data?

* **Feature engineering:**

What additional features can you create from the raw data? Are there more data sources that can be joined?

* **Data analysis and insight generation:**

How is the data quality? How are the features distributed? Which features seem to be predictive of the target? Are there missing values? Do variables show trends over time?

* **Generate model ready data:** What is the right level of aggregation for your problem i.e. what should one row represent? Perform imputation, and transformations as appropriate.
* **Train and tune the model:**

Find optimal values for parameters and hyper-parameters using an appropriate validation scheme.

* **Evaluate performance:**

Determine how your candidate model performs against a baseline model on an appropriate test set. Understand what your model performance means for your original problem.

* **Use the model:**

Make predictions on unknown events using your model.