**Modern Temporal Learning**

**Spring 2022 Project**

**Due May 3, 2021, 11:59 PM (MST) submitted to Canvas site.**

**INDIVIDUAL PROJECT—YOUR WORK IS TO BE YOUR OWN.**

**Objective**

Use the data provided with this project. The data consists of 6 attributes measured daily over several years at several locations.

**Forecast attribute *x*6 at location 6 for *each* of the next 20-time steps (days).**

Use the methods described in the course. You may choose any method. You might start with a model which uses data from only the target attribute and target location first, and then expand your model with more attributes and more locations. Patterns for the target location might be similar to those at other locations, but maybe not all locations are similar.

**Data Description**

The attributes *x*1 through *x*6 can be handled as continuous attributes, even though they are rounded to integers. Dates with data can vary slightly between locations (real data), but this is not expected to generate large impacts on models. These differences might be ignored to start, and enhanced later.

**Evaluation**

Your project will be evaluated primarily by the performance of your model based on the **mean absolute error of your 20 forecasts**.

A written report is also required. Submit a written report with a brief description which includes the following information: 1) Prepare: any preprocessing of the data, 2) Methods: methods and parameters you tried, 3) Evaluate: how you evaluated your methods, 4) Selected Model: your final model, and why you choose your final model and parameter settings.

The description of your final model and parameters needs to provide sufficient detail to be reproduced. Typically five pages are sufficient.

Also include your Python code.

**Submission**

Submit your list of forecasts, report and code in a file with name **TemporalLearningReport2022*yourfullname***.

Submit forecasts in a comma separated values (CSV) list in the document. Given the last time value is time *T*, the elements in the list are the forecasts for time steps [*T*+1, *T*+2, … *T*+20].