**PMSM ELECTRIC MOTOR TEMPERATURE**

**Data Description:**

The columns present in this dataset are:

* **Ambient:** Ambient temperature as measured by a thermal sensor located closely to the stator.
* **Coolant:** Coolant temperature. The motor is water cooled. Measurement is taken at outflow.
* **u\_d:** Voltage d-component
* **u\_q:** Voltage q-component
* **motor\_speed:** Motor speed
* **torque:** Torque induced by current.
* **i\_d:** Current d-component
* **i\_q:** Current q-component
* **pm:** Permanent Magnet surface temperature representing the rotor temperature. This was measured with an infrared thermography unit.
* **stator\_yoke:** Stator yoke temperature measured with a thermal sensor.
* **stator\_tooth:** Stator tooth temperature measured with a thermal sensor.
* **stator\_winding:** Stator winding temperature measured with a thermal sensor.
* **profile\_id:** Each measurement session has a unique ID. Make sure not to try to estimate from one session onto the other as they are strongly independent.

**Data Analysis:**

* First we need import certain packages like pandas,numpy,seaborn,matplotlib,

Kneighborsclassifier and train\_test\_split functions into the notebook.

* Then the data is loaded into the jupyter notebook by using read\_csv function.
* After loading the data we need find the datatypes of data objects and need to convert them into the categorical data.
* After converting the data we need to use the split function to separate the test data and train data.
* After that we need to fit the data to kneighborsclassifier to predict the new values output.
* To find the accuracy of this classifier for prediction we need to use the accuracy function.