**Working Sessions Notes**

# Jan 22 – kickoff meeting with WB, and follow-up emails

* Met with the full team with self introductions
* WB introduced possible scope of work and tasks, including
  + Analysis of "Trade costs and volume of trade in agriculture and fertilizer products in Africa."
  + Improve the WB transport model – FlowMax (transport demand, route choice analysis, traffic pattern, etc.)
  + Development of a country scoring index to assess a country’s potential to produce sustainable aviation fuel.

# Jan 23 – First Class

* Agreed with professor to clarify with WB and identify the problem statement and research plans ASAP
* Jenny will create a Github
* Jichong to document the working session notes

# Feb 6 – 3rd Class

* Snend github
* Setup a mtg with Dr. Gupta, talk about progress, invite Prof. (PM times, Weds, Thursdays, 6-7pm; bi-weeklly with Dr Gupta, weekly with Prof.)
* 1st, only 3 of us
* Every 3 weeks Jenny should come here in class
* Get more data
* Create modular functions like normalization, standerlization, create df, find nulls
  + General functions
    - Imputation methods
  + To pre-process the data
  + In repo, create utlilities.py, use all the mudulal foucntoins
  + Scipts:
    - Main.py: from utilizitis, import numlulization
    - Create a class of preprocessor
      * Put these methods as functions
  + Create a model
    - SVN, decision tree, XG bost, and bost
    - Write a class of this model, to bring any of this
    - To train and fit the model
  + Create a table of results
    - With benchmarks
    - To improve
    - Check benmakrs with papers Gupta has
  + For improviments
    - Crate a package for feature selection, and feature engeining
    - FS packages,
    - Tpots, Featurewiz, feasture tools, Deefeature
    - Then create a new set of data
      * Original data plus feature construction
    - Synate data generator -> data genitor (ask Prof. for code and paper for this)
      * To create synaptic data
  + Improve the model
    - CNN, transformers, Deep N N

EDA class

Feature Class

Utility class

Preprocessor Class

Categocial Encoding

Pycaret

**Problem Statement**

Develop and visualize a country soring index to assess a country’s potential to produce sustainable aviation fuel.