Project on FMST

Learning Objectives

- Problem Understanding
- Data Description
- Attribute information
- Steps to follow

Understanding the problem

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Goals

- Using the data available in file concrete_data.xls. Apply feature engineering methods to obtain 80% to 95% R2Score.
- Identify opportunities (if any) to extract a new feature from existing features, drop a feature (if required).
- Decide on complexity of the model, should it be simple linear mode in terms of parameters or would a quadratic or higher degree help.
- Trying various models with a cross validation technique and squeeze extra performance out of the model by tuning it with help of grid search or random search.

Attribute information

The features in our dataset :

- cement: kg in a m^3 mixture
- slag: Blast furnace slag
- ash: produced in small dark flecks by the burning of powdered coal
- water
- superplastic: Superplasticizer
- coarseagg: sand, gravel, crushed stone
- fineagg: Fine aggregate
- age
- strength: concrete compressive strength

Steps to follow

- Import the libraries
- Get the data
- Find the summary and strength
- Plot the variables for comparison
- Choose the features important for modelling
- Convert values to Z score to remove different units
- Split the data
- Apply different algorithms with a cross validation technique
- Use random search and grid search to find best parameters of the model.

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Questions?