CTC-34 Concrete Compressive Strength prediction

Data:

This dataset is in the repository.

The concrete compressive strength of concrete is a highly nonlinear function of age and ingredients.

Concrete is the most important material in civil engineering. The concrete compressive strength is a highly nonlinear function of age and ingredients. These ingredients include cement, blast furnace slag, fly ash, water, superplasticizer, coarse aggregate, and fine aggregate.

Data reference: https://www.kaggle.com/c/ctc-34-concrete-compressive-strength-prediction/overview

Citation :
NOTE: Reuse of this database is unlimited with retention of copyright notice for
Prof. I-Cheng Yeh and the following published paper:

I-Cheng Yeh, "Modeling of strength of high performance concrete using artificial
neural networks," Cement and Concrete Research, Vol. 28, No. 12, pp. 1797-1808 (1998)

Attributes:

Name	Data Type	Measurement	Description
Cement	Quantitative	Kg in a m^3 mixture	Input variable
Blast Furnace Slag	Quantitative	Kg in a m^3 mixture	Input variable
Fly ash	Quantitative	Kg in a m^3 mixture	Input variable
Water	Quantitative	Kg in a m^3 mixture	Input variable
Superplasticizer	Quantitative	Kg in a m^3 mixture	Input variable
Coarse Aggregate	Quantitative	Kg in a m^3 mixture	Input variable
Fine Aggregate	Quantitative	Kg in a m^3 mixture	Input variable
Age	Quantitative	Days	Input variable
Concrete compressive strength	Quantitative	MPa	Output Variable

Key asks:

- Build a model that helps map the input features to arrive at an appropriate representation of the inputs to the compressive strength
- Model performance range at 95% confidence level