

Model Development Phase Template

Date	15 July 2024
Team ID	SWTID1720171884
Project Title	Predicting Compressive Strength Of Concrete Using Machine Learning
Maximum Marks	5 Marks

Feature Selection Report Template

In the forthcoming update, each feature will be accompanied by a brief description. Users will indicate whether it's selected or not, providing reasoning for their decision. This process will streamline decision-making and enhance transparency in feature selection.

Feature	Description	Selected (Yes/No)	Reasoning
Cement	Quantity of Cement used	Yes	Cement is the primary binding material in concrete. Its quantity significantly affects the strength and durability of the concrete. Higher cement content generally increases the compressive strength.
Blast Furnace Slag	Amount of slag used for concrete mixture	Yes	Blast furnace slag is a by-product of iron production and can be used as a supplementary cementitious material. It improves the concrete's strength and durability by providing additional binding properties

Fly Ash	Amount of Fly Ash used for concrete mixture	Yes	Fly ash, a by-product of coal combustion, is another supplementary cementitious material. It enhances the workability, strength, and durability of concrete while reducing the heat of hydration.
Water	Amount of water used for concrete mixture	Yes	Water is essential for the hydration of cement and the formation of the concrete paste. The water-to-cement ratio is crucial in determining the workability and strength of the concrete
Superplasticizer	Amount of Superplasticizer used for concrete mixture	Yes	Superplasticizers are chemical admixtures used to improve the workability of concrete without increasing the water content. They help in achieving higher strength and better performance
Coarse Aggregate	Amount of Coarse Aggregate used for concrete mixture	Yes	Coarse aggregates provide compressive strength and bulk to the concrete. Their size, shape, and quality affect the overall strength and durability of the concrete.
Fine Aggregate	Amount of Fine Aggregate used for concrete mixture	Yes	Fine aggregates fill the voids between coarse aggregates and contribute to the concrete's workability and strength. The gradation and quality of fine aggregates impact the concrete's properties
Age	Time taken for concrete to settle down	Yes	The age of the concrete is a critical factor in its strength development. Concrete gains strength over time as the hydration process continues. Thus, the age of the concrete samples is essential for predicting their compressive strength

Concrete Compressive Strength	Strength of concrete mixture	Yes	This is the target variable for analysis. Based on the components mixture concrete strength is determined
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