Data Collection and Preprocessing Phase

Date	10 July 2024
Team ID	SWTID1720160264
Project Title	Predicting Compressive Strength Of Concrete Using Machine Learning
Maximum Marks	2 Marks

Data Collection Plan & Raw Data Sources Identification Template

In the realm of construction industry advancements, ensuring the durability and quality of concrete structures stands as a critical objective. Among the pivotal metrics governing concrete quality is its compressive strength. Various stakeholders, including construction firms, civil engineers, and quality control labs, encounter several challenges related to this crucial parameter. Issues range from inconsistent quality of concrete and laborious testing procedures to high equipment costs and regulatory compliance challenges. These hurdles often result in delays, increased project costs, and potential structural deficiencies, impacting both project timelines and customer satisfaction.

Data Collection Plan Template

Section	Description
Project Overview	To address these challenges effectively, it is imperative to develop robust solutions that streamline the process of compressive strength testing. By enhancing efficiency, accuracy, and reliability in data collection and analysis, stakeholders can achieve better project outcomes and ensure customer satisfaction.
Data Collection Plan	● **Research and Analysis:** Searching for datasets that provide comprehensive insights into concrete properties and testing methodologies. ● **Prioritization:** Prioritizing datasets that encompass various concrete mixes, environmental conditions, and testing protocols to ensure robust analysis..

Raw Data Sources Identified	Our project aims to improve how we test concrete strength. We're gathering data from our own construction projects, including details on concrete mixes, test results, and environmental conditions. We're also using data from trusted sources like ASTM International and NIST for information on concrete materials and structural tests. This data helps us ensure our testing methods are accurate and our projects are successful.

Raw Data Sources Template

Source Name	Description	Location/URL	Format	Size	Access Permissions
Dataset 1	Concrete Compressive Strength Data Set	https://www.kaggle.com/datasets/elikplim/concrete-compressive-strength-data-set	CSV	59 KB	Public