Data Collection and Preprocessing Phase

Date	6 July 2024
Team ID	740050
Project Title	3d printer material prediction using machine learning
Maximum Marks	2 Marks

Data Collection Plan & Raw Data Sources Identification Template

Elevate your data strategy with the Data Collection plan and the Raw Data Sources report, ensuring meticulous data curation and integrity for informed decision-making in every analysis and decision-making endeavor.

Data Collection Plan Template

Section	Description
Project Overview	The project aims to develop a machine learning (ML) model that can predict the optimal material for 3D printing based on specific requirements and constraints. This involves understanding the properties of various materials, the requirements of different printing projects, and using ML techniques to match them efficiently.
Data Collection Plan	Search for datasets related to predicting 3d printer material
Raw Data Sources Identified	The raw data sources for this project include datasets obtained from Kaggle, the popular platforms for data science competitions and repositories. The provided sample data represents a subset of the collected information.

Raw Data Sources Template

Source Name	Description	Location/URL	Format	Size	Access Permissions
Dataset	Our base data is a.csv which contains information like 'layer_height','wall_thickness','infill_density','infill_pattern','nozzle_temperature','bed_temperature','print_speed','material','fan_speed','roughness','tension_strenght','elongation'. Our prediction or target column is material here. By taking all the other inputs we are going to predict which type of material can be suggested. Here in the column 'material', we have two types 'abs' and 'pla'. So our aim is to predict whether the suggested material would be 'abs' or 'pla' based on the inputs given.	https://www.kaggle.com/vinaynomula/3d-printer-material-dataset	CSV	4 KB	Public