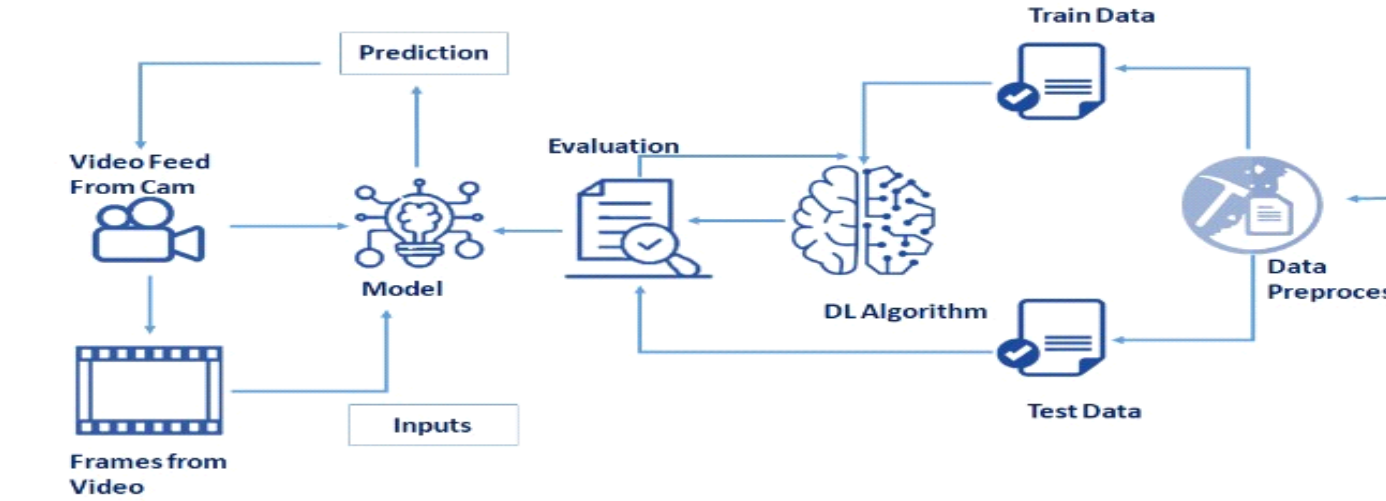
project phase 2

Technology Architecture

Date	23 October 2022
Team ID	PNT2022TMID45711
Project Name	Project – Natural Disaster Intensity Analysis and Classification Using Artificial Intelligence
Maximum Marks	4 Marks



Technical Architecture:

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User interacts with application for the predictionof Any Natural disaster which will happen in future minutes.	HTML, CSS, JavaScript, Django,Python.
2.	Feature Engineering	Algorithms can't make sense of raw data. We have to select, transform, combine, and	Image processing, pattern extraction,etc.

	Pipeline	otherwise prepare our data so the algorithm canfind useful patterns.	
3.	Model Training kit	It learns patterns from the data. Then they usethese patterns to perform particular tasks.	Multiclass Classification Model, Regression Model, etc.
4.	Prediction unit	This function is used to predict outcomes from the new trained data to perform new tasks andsolve new problems.	Decision trees, Regression, Neural networks.
5.	Evaluation system	It monitors that how Algorithm performs on dataas well as during training.	Chi-Square, Confusion Matrix, etc.
6.	Interactive services	To interact with our model and give it problems to solve. Usually this takes the form of an API, auser interface, or a command-line interface.	Application programming interface,etc.
7.	Data collection unit	Data is only useful if it's accessible, so it needs to be stored ideally in a consistent structure and conveniently in one place.	IBM Cloud, SQL Server.
8.	Data generation system	Every machine learning application lives off data. That data has to come from somewhere.Usually, it's generated by one of your core business functions.	Synthetic data generation.

9.	Database management system	An organized collection of data stored in database, so that it can be easily accessed andmanaged.	MySQL, DynamoDB etc.
10.	IBM Cloud services	Processed data stored in cloud service which can be access by the admin anywhere over theinternet.	IBM Cloud etc.

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology

1.	Open-Source Frameworks	An open source framework is a template for software development that is designed by a social network of software developers. These frameworks are free for public use and providethe foundation for building a software application.	Keras, pensor flow.
2.	Authentication	This keeps our models secure and makes sureonly those who have permission can use them.	Encryption and Decryption (OTP).
3.	Application interface	User uses mobile application and web application to interact with model	Android and Web Development (PhoneGap, ReactNative, and NativeScript).
4.	Availability (both Online and Offlinework)	Its include both online and offline work. As good internet connection is need for online work to explore the software perfectly. Offlinework includes the saved data to explore for later time.	Caching, backend server.

5.	Regular Updates	The truly excellent software product needs a continuous process of improvements and updates. Maintain your server and make surethat your content is always up-to-date. Regularly update an app and enrich it with newfeatures.	• Waterfall Approach • Incremental Approach • Spiral Approach