Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	03 October 2022
Team ID	PNT2022TMID01368
Project Name	Project - Natural Disasters Intensity Analysis and Classification using Artificial Intelligence
Maximum Marks	4 Marks

Technical Architecture:

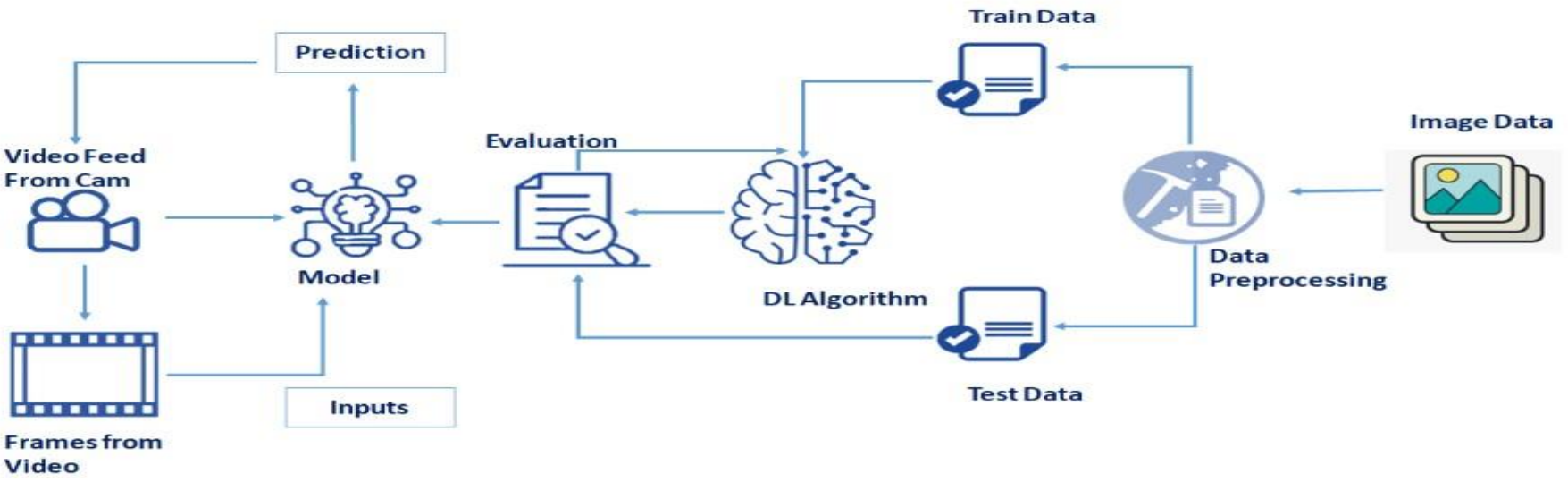

Table-1 : Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	interaction between the user and the application.	HTML, CSS, JavaScript, React Js.
2.	Application Logic-1	A login and password that allows access to the service. Users can sign up using their Gmail account or Account on web server.	Python Flask
3.	Database	Images and datasets are stored as data.	MySQL
4.	Cloud Database	Database Service on IBM Cloud	IBM DB2.
5.	File Storage	CSV files and image formats.	IBM Block Storage or Other Storage Service or Local Filesystem
6.	External API-1	to be aware of the current problems in the area	IBM Weather API, Weather forecast etc.
7.	Machine Learning Model	Models for processing video frames and image data	Object Recognition Model, etc.

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	The open-source framework is Software Development a social network of software developers. This The framework is free for public use and deployment Fundamentals of building software application	Keras, pensor flow.
2.	Security Implementations	It is used to hash and salt passwords securely. This keeps the model safe and guarantees safety Only authorized persons can use	Encryption and Decryption (OTP).
3.	Scalable Architecture	Signal and Image processing using scalable natural disaster	GPS (Global Positioning System)
4.	Availability	Includes both online and offline work. As Online requires a good internet connection Work to fully explore the software. off-line Work contains stored data to be searched later time.	Caching, backend server.
5.	Performance	A web-enabled awareness research network can help people, save lives and limit the impact of natural disasters	Land based sensor, Radar based sensor