Project Design Phase-I
Solution Architecture

Date	03 October 2022
Team ID	PNT2022TMID29769
Project Name	A Noval Method For Handwritten Digit Recognition System
Maximum Marks	4 Marks

Solution Architecture:

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

- Find the best tech solution to solve existing business problems.

- Describe the structure, characteristics, behavior, and other aspects of the software to project stakeholders.

- Define features, development phases, and solution requirements.

- Provide specifications according to which the solution is defined, managed, and delivered.

Solution Architecture Diagram:
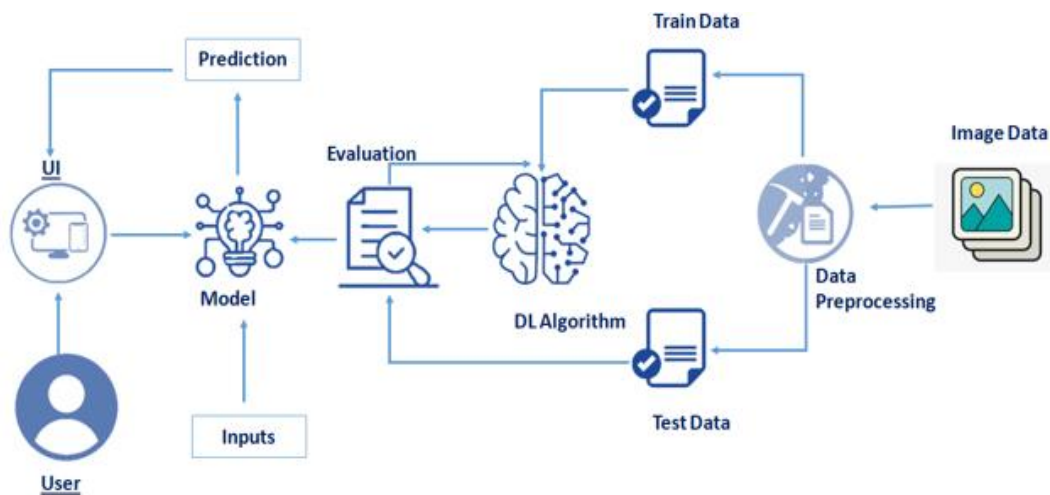
A Noval Method For Handwritten Digit Recognition System

Image Data:

Image data is an type of user data to convert recognition

Is a photographic or trace objects that represent the underlying pixel data of an area of an image element.
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Data Preprocessing:

Data preprocessing is a process of preparing the raw data and making it suitable for a machine learning model.

Data preprocessing is required tasks for cleaning the data and making it suitable for a machine learning model which also increases the accuracy and efficiency of a machine learning model.

Train dadaset:

A training dataset is an initial dataset that teaches the ML models to identify desired patterns or perform a particular task.

A testing dataset is used to evaluate how effective the training was or how accurate the model is.

Test data:

Once we train the model with the training dataset, it's time to test the model with the test dataset. This dataset evaluates the performance of the model and ensures that the model can generalize well with the new or unseen dataset.

The test dataset is another subset of original data, which is independent of the training dataset.

DL Algorithm:

Deep learning uses a complex structure of algorithms modeled on the human brain. This enables the processing of unstructured data such as documents, images, and text.

Evaluation:

Evaluation is the process of using different evaluation metrics to understand a machine learning model's performance, as well as its strengths and weaknesses.

Inputs:

An input usually refers to an example (sometimes also known as sample,observation or data point) x from a dataset that you pass to the model.

Model:

A machine learning model is a file that has been trained to recognize certain types of patterns.

Prediction:

The output of an algorithm after it has been trained on a historical dataset and applied to new data when forecasting the likelihood of a particular outcome.

User Interface:

The user interface (UI) is the point of human-computer interaction and communication in a device.

This can include display screens, keyboards, a mouse and the appearance of a desktop. It is also the way through which a user interacts with an application or a website.

User:

A user is a person who utilizes a computer or network service.

Reference:
https://www.researchgate.net/publication/354755659_A_Novel_Handwritten_Digit_Classification_System_Based_on_Convolutional_Neural_Network_Approach

http://troindia.in/journal/ijcesr/vol6iss6part2/32-36.pdf