Project Design Phase-I Proposed Solution Template

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| Date | 19 September 2022 |
| Team ID | PNT2022TMID16365 |
| Project Name | Project - A Novel Method For Handwritten Digit Recognition System |
| Maximum Marks | 2 Marks |

**Proposed Solution Template:**

Project team shall fill the following information in proposed solution template.

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| **S.No.** | **Parameter** | **Description** |
| 1. | Problem Statement (Problem to be solved) | 1. The problem statement is to classify handwritten digits. 2. The goal is to take an   image of a handwritten digit and determine what that digit is.   1. The digits range from zero (0) through nine (9). |
| 2. | Idea / Solution description | We propose a novel method to compute the learning rate for training deep  neural networks with stochastic gradient descent. |
| 3. | Novelty / Uniqueness | 1. Two techniques used uniquely are Pattern Recognition and Artificial Neural Network (ANN) and Convolution Neural Network(CNN) using MNIST dataset. 2. Also uses integrated GUI for recognition. |
| 4. | Social Impact / Customer Satisfaction | 1. Machine learning and deep learning plays an important role in computer technology and artificial intelligence. 2. With the use of deep learning and machine learning, human effort can be reduced in recognizing, learning, predictions and   many more areas. |

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| 5. | Business Model (Revenue Model) |  |
| 6. | Scalability of the Solution | 1. As it uses neural networks, these systems have a respectable success rate in handwritten recognition. 2. It provides higher than 99% accuracy of the resultant output. |