# Project Design Phase-II
# Proposed Solution

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| Date | 28 October 2023 |
| Team ID | PNT2023TMID591910 |
| Project Name | AI Art Detection |
| Maximum Marks | 2 Marks |

| S.No. | Parameter | Description |
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| 1 | Problem Statement (Problem to be solved) | The challenge of machine learning (ML)-based AI art detection is creating a system that can assess and classify artworks according to whether they are artificial intelligence (AI) generated or not. The difficulty lies in creating and deploying machine learning models that accurately represent the complex patterns and features found in artworks, allowing for precise classification. |
| 2 | Idea / Solution description | The AI Art Detection solution uses machine learning (ML) to classify and analyse artworks based on real or AI generated in an autonomous manner. To improve model generalisation, a varied dataset is gathered and preprocessed to guarantee uniform image sizes and augmented data. Convolutional Neural Networks (CNNs), is used in the solution to extract features and then classify based on AI generated or real. |
| 3 | Novelty / Uniqueness | Building a specialised tool from the ground up is what makes an AI Art Detection system unique. Instead of using information from already-built models, we create a unique CNN that is intended to recognize and categorise. |
| 4 | Social Impact / Customer Satisfaction | The system is primarily useful for art transparency and authentication, especially given the widespread usage of (AI)-generated art. This development in technology also helps to preserve human creativity. Through accurate recognition of AI-generated artworks, the system upholds the unique and vital involvement of human artists in the creative process. Additionally, the system becomes a vital part of artistic and cultural discourse, promoting discussions about the changing role of technology in the creative process. |
| 5 | Business Model (Revenue Model) | Provide museums, galleries, and art collectors with a subscription-based service. The AI art detection system is made available to subscribers, enabling them to confirm the legitimacy of the artworks in their |

| | | collections. Subscription tiers may comprise varying usage levels, frequency of analyses, and extra features. |
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| 6 | Scalability of the Solution | For Scalability a distributed training approach can be used. The model training process is split up among several nodes by using distributed computing frameworks like TensorFlow or PyTorch with data parallelism. This makes it possible for the system to effectively handle bigger datasets and more complicated models. Furthermore, the architecture of the model is parallel processing-optimized, enabling smooth scaling across multiple GPUs or nodes. This distributed training approach makes sure the ML model can scale horizontally as the dataset grows, supporting larger data volumes and preserving training efficiency for reliable and scalable AI art detection capabilities. |