**Project Design Phase**

**Proposed Solution Template**

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| Date | 15 February 2025 |
| Team ID | LTVIP2025TMID20355 |
| Project Name | PATTERN SENSE |
| Maximum Marks | 2 Marks |
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**Proposed Solution Template:**

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

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| **S.No.** | **Parameter** | **Description** |
|  | Problem Statement (Problem to be solved) | Manual classification and quality inspection of fabric patterns is time-consuming, error-prone, and not scalable across industries like fashion, textiles, and design |
|  | Idea / Solution description | Develop a deep learning-powered application that classifies fabric patterns (e.g., floral, geometric, striped) from images using a CNN model and automates defect detection. |
|  | Novelty / Uniqueness | Combines fabric pattern classification and quality control into one system, optimized for multiple industries, with real-time prediction and scalability option |
|  | Social Impact / Customer Satisfaction | Improves working efficiency of designers and manufacturers, reduces inspection errors, and promotes adoption of AI in traditional sectors. Enhances product quality assurance. |
|  | Business Model (Revenue Model) | Freemium SaaS model: free limited access with subscription for premium features like batch processing, analytics dashboard, defect alerts, and API integrations. |
|  | Scalability of the Solution | Easily scalable across industries with large image datasets. Deployable on cloud for enterprise use, and extendable to new pattern types or related use cases (e.g., texture analysis). |