**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

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| Date | 20 June 2025 |
| Team ID | LTVIP2025TMID60795 |
| Project Name | Pattern Sense: Classifying Fabric Patterns Using Deep Learning |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

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| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | Image Upload Interface | Upload fabric image from user device |
| FR-2 | Image Preprocessing | Resize, normalize, and clean uploaded images |
| FR-3 | Pattern Classification | Predict fabric pattern using trained CNN |
| FR-4 | Result Display | Show predicted pattern name and confidence score |
| FR-5 | Feedback Mechanism | Allow users to submit feedback on classification accuracy |
| FR-6 | Admin Dashboard | View statistics: number of uploads, feedback, accuracy report |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | Usability | Simple interface to upload images and view predictions |
| NFR-2 | Security | Ensure data privacy for uploaded images |
| NFR-3 | Reliability | System should consistently provide accurate classification results |
| NFR-4 | Performance | Classification should complete in under 3 seconds per image |
| NFR-5 | Availability | The system should be available at least 99% of the time |
| NFR-6 | Scalability | System should handle increasing number of image uploads without crashing |