**Requirement Analysis**

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

|  |  |
| --- | --- |
| Date | 27 June 2025 |
| Team ID | LTVIP2025TMID59820 |
| Project Name | Pattern Sense: Classifying Fabric Patterns Using Deep Learning |
| Maximum Marks | 4 Marks |

**3.1.1 Functional Requirements:**

Following are the functional requirements of the proposed solution.

|  |  |  |
| --- | --- | --- |
| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | Fabric Pattern Identification | Automatically classify and label fabric patterns from images |
| FR-2 | Accuracy | Ensure high precision in pattern classification to avoid mislabeling |
| FR-3 | User Satisfaction | Users should be satisfied with the accuracy and speed of the pattern classification results |

**3.1.2 Non-functional Requirements:**

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

|  |  |  |
| --- | --- | --- |
| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | Usability | The system shall provide a simple, user-friendly web interface for uploading fabric images and viewing classification results. |
| NFR-2 | Reliability | The system shall consistently deliver accurate pattern predictions under normal operating conditions. |
| NFR-3 | Performance | The system shall provide classification results within 2-3 seconds per image with high accuracy. |
| NFR-4 | Availability | The system shall be operational and available at all times during demonstrations or real-time sessions. |
| NFR-5 | Scalability | The system design shall allow for future scalability, including handling higher user traffic, batch classification of multiple fabric images, and expanding to new pattern categories. |