# Solution Requirements

Project Design Phase-II

Date: 22 June 2025

Team ID:LTVIP2025TMID43376

Project Name: Pattern Sense: Classifying Fabrics 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 | Upload fabric images Drag and drop support |
| FR-2 | Image Preprocessing | Resize, normalize and convert images Augmentation for training |
| FR-3 | Model Training | Train CNN using uploaded labeled data |
| FR-4 | Model Evaluation | Generate accuracy, precision, recall, F1-score Confusion matrix display |
| FR-5 | Classification | Predict fabric type on new image Display result with confidence score |
| FR-6 | User Interface | Simple UI for uploading and viewing results Feedback option for incorrect results |

## Non-functional Requirements

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

|  |  |
| --- | --- |
| FR No. | Non-Functional Requirement Description |
| NFR-1 | Usability – The UI should be user-friendly and intuitive. |
| NFR-2 | Security – Image data must be securely stored and transferred. |
| NFR-3 | Reliability – Model should provide consistent results. |
| NFR-4 | Performance – Classification should occur in under 3 seconds. |
| NFR-5 | Availability – The system should be accessible 24/7. |
| NFR-6 | Scalability – Support for large number of users and image uploads. |