**Project Design Phase-II**

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

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| Date | 28 June 2025 |
| Team ID | LTVIP2025TMID46247 |
| Project Name | 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 & Classification | Upload image via Streamlit UI |
|  |  | Display classification result with confidence |
| FR-2 | Model Training | Train CNN on local fabric dataset |
|  |  | Use data augmentation to improve generalization |
| FR-3 | Fabric Category Management | Support multiple fabric categories |
| FR-4 | Model Deployment | Host Streamlit interface for usage |
|  |  | Allow local or containerized deployment |

**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 UI for non-technical users using Streamlit |
| NFR-2 | Security | Local use only; no external authentication required |
| NFR-3 | Reliability | Consistent predictions under similar input conditions |
| NFR-4 | Performance | Fast classification after model training |
| NFR-5 | Availability | Available locally on demand |
| NFR-6 | Scalability | Model can be retrained with new data as needed |