Ideation Phase
Brainstorm & Idea Prioritization Template

Date	**30 June 2025**
Team ID	**LTVIP2025TMID32913**
Project Name	**Pattern sense : classifying fabric using deep learning**
Maximum Marks	**4 Marks**

Step 1: Team Gathering, Collaboration and Select the Problem Statement

- Team conducted an online session to discuss areas where AI can be applied in fashion and textile industries.
- Decided to focus on the problem: "How can we automatically classify fabric patterns using deep learning to support industries like fashion and design?"
- Problem statement finalized: **Pattern classification in fabric images using deep learning techniques.**

Step 2: Brainstorm, Idea Listing and Grouping

Ideas generated:

- Use Convolutional Neural Networks (CNNs) for image classification.
- Create a labeled dataset of fabric images (floral, geometric, striped, etc.).
- Augment dataset using transformations like rotation, flip, etc.
- Use transfer learning with pre-trained models like ResNet or MobileNet.
- Build a web interface to upload fabric image and show predicted pattern.
- Train using Google Colab with GPU.
- Evaluate model using accuracy, confusion matrix, and F1 score.

Grouped Ideas:

- **Model Development**: CNN, ResNet, Transfer learning
- **Dataset**: Collect, label, augment
- **Testing & Evaluation**: Accuracy, confusion matrix
- **Deployment**: Web app, user interface

Step 3: Idea Prioritization

Idea	Impact	Feasibility	Priority
Use ResNet for classification	High	High	High
Collect and label dataset	High	Medium	High
Augment images	Medium	High	Medium
Web interface for prediction	High	Medium	High
Evaluate with accuracy/confusion matrix	High	High	High
Use MobileNet (backup plan)	Medium	High	Medium

Final Chosen Plan:

- Use ResNet with transfer learning.
- Build and augment dataset.
- Evaluate and visualize results.
- Deploy through a simple Flask web app