2. Ideation Phase
2.3 Brainstorming & Idea Prioritization

Date	28 June 2025
Team ID	LTVIP2025TMID35678
Project Name	Pattern Sense: Classifying Fabric Patterns Using Deep Learning
Maximum Marks	4 Marks

Brainstorm & Problem Identification:

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

We began our ideation journey by coming together as a team of four, each bringing different technical strengths and creative perspectives. We scheduled a brainstorming session using virtual collaboration tools like Google Meet and Jamboard. During this session, we discussed various problem areas in AI and Computer Vision, noting our mutual interest in applying machine learning to real-world visual classification problems.

After careful discussion, we selected the problem of automatically identifying fabric patterns (like striped, polka-dotted, plain, checked) using a deep learning model. This problem is relevant to the textile and fashion industries, where manual classification can be time-consuming and inconsistent. Our aim was to automate this process using a trained Convolutional Neural Network (CNN).

Step-2: Brainstorm, Idea Listing and Grouping

We individually listed out multiple project ideas across domains such as:

- Medical Imaging Analysis

- Sign Language Detection

- Fabric Pattern Classification

- Defect Detection in Manufacturing

- Smart Plant Disease Identifier

- Real-time Weather-Based Clothing Suggestion

- Garbage Classification using AI

After grouping and comparing, we realized our interest and resource alignment was best with Visual Classification, especially focusing on fabric patterns due to the abundance of datasets and scope for computer vision innovation.


Step-3: Idea Prioritization

We prioritized our ideas based on two axes:

- Feasibility (Do we have the resources, skills, and data?)

- Impact (Is it relevant, practical, and innovative?)

After plotting the ideas, "Fabric Pattern Classification" stood out as highly feasible and impactful. It had:

- Clear scope for applying CNN-based image classification.

- Relevance to a growing industry need in textiles.

- Availability of labeled image datasets.

- Potential for a visually engaging and intuitive web application.

Thus, we finalized Pattern Sense as our project. It allows us to explore deep learning in a meaningful, deployable, and real-world applicable scenario.
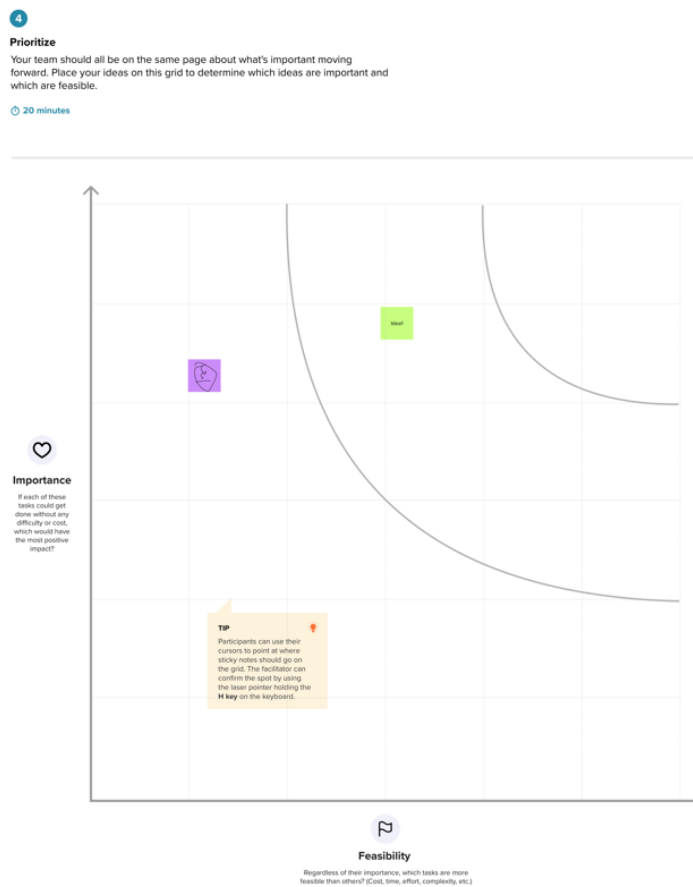
Final Idea Chosen: Pattern Sense – A Deep Learning-based Web Application to Automatically Classify Fabric Patterns into categories like striped, plain, polka-dotted, and checked using a trained CNN model deployed via Flask.