

Project Design Phase
Problem – Solution Fit Template

Date	20 June 2025
Team ID	LTVIP2025TMID60795
Project Name	Pattern Sense: Classifying Fabric Patterns Using Deep Learning
Maximum Marks	2 Marks

Problem – Solution Fit Template:

The Problem-Solution Fit in the *Pattern Sense* project means we have identified a real challenge faced by fashion designers, textile manufacturers, and e-commerce platforms—manual classification of fabric patterns is inefficient, inconsistent, and prone to human error.

Our proposed solution, a deep learning-based fabric pattern classification system, directly addresses this problem by offering speed, accuracy, and automation. This fit helps researchers, developers, and industry professionals recognize key behavioral patterns, streamline processes, and ensure that the solution is not only technically sound but also genuinely solves the users' day-to-day pain points.

Purpose:

- ☒ Solve complex fabric classification challenges in a way that aligns with the needs of designers, manufacturers, and e-commerce platforms.
- ☒ Accelerate adoption and results by integrating deep learning into existing workflows and tools already used in the textile and fashion industries.
- ☒ Sharpen model communication and user onboarding with clear triggers, intuitive interfaces, and pattern recognition insights tailored to industry users.
- ☒ Build trust and increase interaction with your system by addressing frequent classification issues, costly labeling errors, and production delays.
- ☒ Understand the current pattern classification processes to develop a solution that truly improves accuracy, efficiency, and user satisfaction.

Template:

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) CS Who is your customer? I.e. working parents of 0-5 y.o. kids	6. CUSTOMER CONSTRAINTS CC What constraints prevent your customers from taking action or limit their choices of solutions? I.e. spending power, budget, no cash, network connection, available devices.	5. AVAILABLE SOLUTIONS AS Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? I.e. pen and paper is an alternative to digital notetaking	Explore AS, differentiate
	2. JOBS-TO-BE-DONE / PROBLEMS J&P Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.	9. PROBLEM ROOT CAUSE RC What is the real reason that this problem exists? What is the back story behind the need to do this job? I.e. customers have to do it because of the change in regulations.	7. BEHAVIOUR BE What does your customer do to address the problem and get the job done? I.e. directly related: find the right solar panel installer; calculate usage and benefits; indirectly associated: customers spend free time on volunteering work (I.e. Greenpeace)	
Identify strong TR & EM	3. TRIGGERS TR What triggers customers to act? I.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.	10. YOUR SOLUTION SL If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality. If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.	8. CHANNELS of BEHAVIOUR CH 8.1 ONLINE What kind of actions do customers take online? Extract online channels from #7	Extract online & offline CH of BE
	4. EMOTIONS: BEFORE / AFTER EM How do customers feel when they face a problem or a job and afterwards? I.e. lost, insecure > confident, in control - use it in your communication strategy & design.		8.2 OFFLINE What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.	