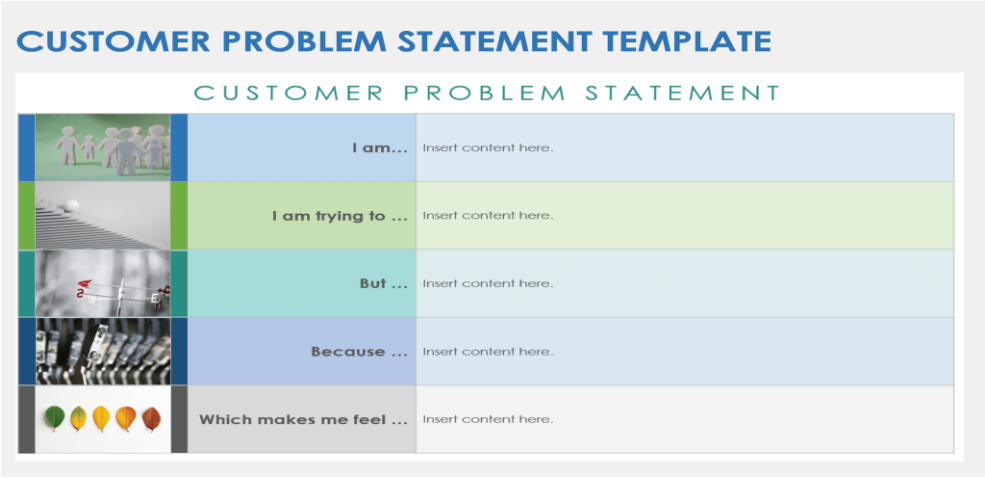
Ideation Phase

Define the Problem Statements

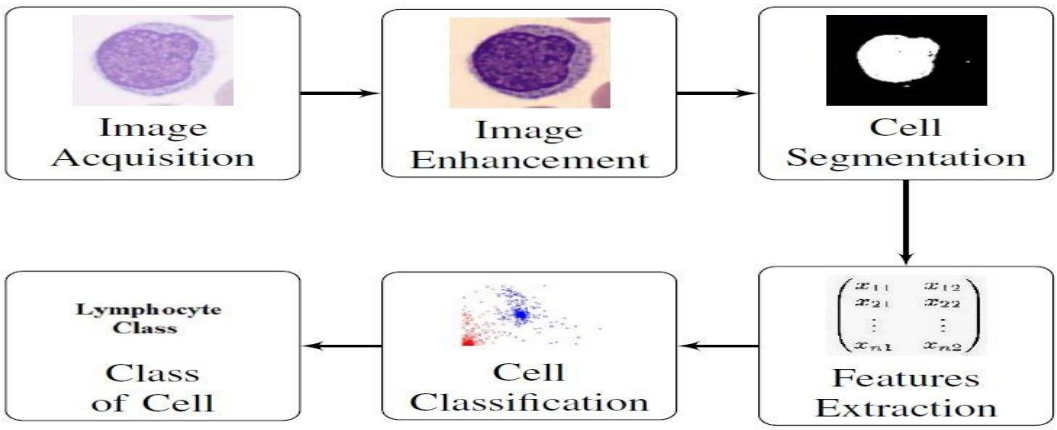
Date	29 June 2025
Team ID	LTVIP2025TMID59847
Project Name	Hematovision: Advanced Blood Cell Classification using Transfer Learning
Maximum Marks	4 Marks

Customer Problem Statement Template:

Medical professionals including hematologists, pathologists, laboratory technicians, and healthcare providers, especially in hospitals, diagnostic labs, and rural health centres. The manual classification of blood cells under a microscope is time-consuming, error-prone, and requires expert interpretation. In many regions, there is a shortage of skilled professionals, and early diagnosis of blood-related diseases (like leukemia or anemia) often gets delayed due to limited access to reliable diagnostic tools. The primary goal is to automate and enhance the process of blood smear analysis, which is critical for diagnosing a range of conditions such as leukemia, anemia, infections, and other hematologic disorders. To enhance real-world applicability, the model can be integrated into a web or mobile application, allowing technicians or clinicians to upload microscope images and receive instant analysis and classification results.



Example:



Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	Healthcare professional working	accurately classify different types of blood cells from microscope	manual process is time-consuming, requires a high level of expertise	we lack access to automated, intelligent tools that can assist with precise	overwhelmed, under-resourced
PS-2	Junior lab technician	to learn and correctly classify different types of blood cells	I struggle with identifying subtle differences between cell types, especially when under pressure or dealing with abnormal samples	the process is complex and subjective, and I don't always have immediate access to expert guidance	unsure, stressed, and afraid of making diagnostic mistakes that could impact patient care.