# Ideation Phase

Define the Problem Statements

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| Date 01 July 2025 |
| Team ID LTVIP2025TMID40229 |
| Project Name HematoVision |
| Maximum Marks 2 Marks |

## Customer Problem Statement:

HematoVision is designed to develop a high-performing and efficient model for blood cell classification by leveraging transfer learning. Using a dataset of 12,000 annotated images categorized into key blood cell types—eosinophils, lymphocytes, monocytes, and neutrophils—the project applies pre-trained convolutional neural networks (CNNs) to accelerate training and boost classification accuracy. By harnessing the feature-extraction capabilities of existing deep learning models, transfer learning enhances performance while significantly reducing training time and computational resources. This approach offers a robust and scalable solution for pathologists and healthcare professionals, enabling accurate, fast, and reliable blood cell identification.

## Statement - HematoVision Version:

I am:  
A lab technician or pathologist in a hospital or rural clinic, often overworked, detail-focused, and time-constrained.

I'm trying to:  
Accurately and quickly classify different types of blood cells from microscope images for diagnosis.

But:  
I face difficulty due to manual processes, fatigue, limited staff, and risk of human error.

Because:  
The current process is fully manual, slow, and relies on years of training and constant focus to be accurate.

Which makes me feel:  
Frustrated, overwhelmed, and worried about giving incorrect diagnoses or delaying patient treatment.

## Problem Statement (PS)

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| I am (Customer) | I'm trying to | But | Because | Which makes me feel | PS ID |
| A lab technician or pathologist | Classify blood cells quickly and accurately | It's time-consuming and error-prone | The process is manual and requires constant focus | Frustrated, overwhelmed, and worried about giving incorrect diagnoses or delaying patient treatment. | PS-1 |