# Project Title:

**HematoVision: Advanced Blood Cell Classification Using Transfer Learning**

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## Phase-1: Brainstorming & Ideation

Problem Identification

Blood disorders like anemia, leukemia, and infections often require manual microscopic evaluation of blood smears, a time-consuming and error-prone process. The team aimed to develop an AI-powered solution to automate the classification of blood cells, improving diagnosis speed and accuracy in clinical settings.

Idea Finalization

The idea was to use transfer learning on a pre-trained convolutional neural network to classify images of blood cells into categories such as: Neutrophils, Lymphocytes, Monocytes, Eosinophils, Basophils.

Objectives Outlined

• Use a pre-trained deep learning model (ResNet50 or VGG16) to classify blood cell images.  
• Build a responsive web application using Flask for real-time prediction.  
• Provide accurate classification to assist hematologists in diagnostics.

Feasibility Analysis

• Dataset: Availability of open datasets like the BCCD Dataset.  
• Model: Transfer learning reduces training time.  
• Deployment: Flask ensures simple integration and deployment.

Outcome of Phase-1

Clear definition of the problem and goals. The team finalized the project title: HematoVision: Advanced Blood Cell Classification Using Transfer Learning