# Model Development Phase Template

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| Date | 05 July 2025 |
| Team ID | SWTID1749835721 |
| Project Title | HematoVision - Blood Cell Classification using Transfer Learning |
| Maximum Marks | 6 Marks |

**Model Selection Report**

In the forthcoming Model Selection Report, various models will be outlined, detailing their descriptions, hyperparameters, and performance metrics, including Accuracy or F1 Score. This comprehensive report will provide insights into the chosen models and their effectiveness.

| Model | Description | Hyperparameters | Performance Metric (e.g., Accuracy, F1 Score) |
|---|---|---|---|
| Mobile NetV2 | Lightweight CNN optimized for mobile and embedded vision apps. It uses depth wise separable convolutions to drastically reduce model size and computation without compromising accuracy. Excellent balance between performance and speed. | Optimizer: Adam<br>Learning Rate: 0.001<br>Dropout: 0.5<br>Input size:224x224x3<br>Epochs:10<br>Pretrained on:ImageNet | Accuracy score = 98.5% |
| ResNet50 | Deep CNN that uses residual connections to solve vanishing gradient problems in very deep networks. Strong performance on complex image tasks and scalable. | Optimizer: Adam<br>Learning Rate: 0.001<br>Dropout: 0.5<br>Input size:224x224x3<br>Epochs:10<br>Pretrained on:ImageNet | Accuracy score = 91.0% |

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| InceptionV3 | Advanced architecture that uses multiple filter sizes in parallel (Inception modules). Achieves high accuracy with efficient use of parameters. Suitable for more complex classification tasks. | Optimizer: Adam<br>Learning Rate: 0.001<br>Dropout: 0.5<br>Input size:224x224x3<br>Epochs:10<br>Pretrained on:ImageNet | Accuracy score = 90.0% |

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| VGG16 | Simple and deep CNN with 16 layers, known for its uniform architecture using 3×3 filters. However, it's computationally heavier and slower. Performs reasonably well but is not as efficient. | Optimizer: Adam<br>Learning Rate: 0.001<br>Dropout: 0.5<br>Input size:224x224x3<br>Epochs:10<br>Pretrained on:ImageNet | Accuracy score = 87% |