| Date | 19  February 2026 |
|------|-------------------|
| Team ID | LTVIP2026TMIDS83873 |
| Project Name | Smart Sorting  Transfer Learning  for Identifying Rotten Fruits and Vegetables |

## Model Performance Testing:

### Model Summary:

- Base Model: VGG16 (Pretrained on ImageNet)

- Top layers replaced with custom Dense layers

- Output Layer: Binary Classification (Fresh / Rotten)

- Activation Function: Softmax

- Loss Function: Categorical Crossentropy

- Optimizer: Adam

### Accuracy:

- **Training Accuracy:** 94%

- **Validation Accuracy:** 92%

### Fine Tuning Result :

- Unfroze last few convolution layers

- Validation Accuracy after Fine-tuning: 92%

- Reduced overfitting