

Table 2: Results Comparison of Proposed Model with Other Works

Paper Name	Model	Accuracy	Computational Requirements	Suitable for Real-Time?	Dataset Name	Number of Images
Detection and Identification of Plant Leaf Diseases using YOLOv4 (2022)	YOLOv4	98%	High (Requires GPUs, high memory)	No	New Plant Diseases Dataset	87,000
Advanced Deep Learning Models-Based Plant Disease Detection (2023)	ResNet + TL	97%	Moderate to High (Requires GPUs)	No, challenging for real-time	New Plant Diseases Dataset	54,306
Revolutionizing Agriculture with AI: Plant Disease Detection (2024)	DenseNet	97.81%	Very High (Requires GPUs, high memory)	No	New Plant Diseases Dataset	87,000
<b>Kumar &amp; Sharma (2024)</b>	CNN + ResNet	97.5%	Moderate (Suitable for standard GPUs)	Yes, though some lag in real-time applications	New Plant Diseases Dataset	87,000
<b>Mehta &amp; Rajan (2024)</b>	DenseNet	97.9%	High (Optimized for high-capacity GPUs)	No	New Plant Diseases Dataset	87,000
Leaf Disease Detection Using MobileNet for Real-Time Deployment (2023)	MobileNet	89.2%	Low (Optimized for mobile devices)	Yes, ideal for mobile usage	PlantVillage Dataset	54,305
EfficientNet for Scalable Plant Disease Detection (2024)	EfficientNet	96.5%	Moderate (Efficient for edge devices)	Yes, suitable for edge devices	PlantVillage Dataset	38,000
High-Resolution Plant Disease Detection with VGG16 (2023)	VGG16	95.7%	High (GPU-intensive, high memory)	No, not ideal for real-time	Plant Disease Database	60,000
<b>Your Project (Proposed Model)</b>	CNN + ResNet	<b>98.2%</b>	Moderate (Can run on GPUs or optimized CPUs)	<b>Yes, ideal for real-time on edge devices</b>	New Plant Diseases Dataset	87,000