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## Plagiarism Scan Report

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7 Conclusion and Future Research Directions
This research has presented a streamlined ResNet-9 architecture for plant disease classi-
fication, achieving 99.23% accuracy with only 6.5 million parameters. The model's effi-
ciency characteristics make it particularly suitable for deployment in resource-constrained
agricultural environments.
Future research opportunities include:
1. Edge Device Optimization: Implementing quantization and network pruning
techniques for mobile platforms
2. Interpretability Enhancement: Integrating gradient-based visualization tech-
niques for improved diagnostic transparency
3. Multimodal Integration: Combining visual analysis with environmental sensor
data
4. Adaptive Learning Frameworks: Developing methodologies for continuous adap-
tation to emerging disease variants
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