

# Project Planning

Date	31 January 2025
Team ID	LTVIP2025TMID60812
Project Name	Grain Palette - A Deep Learning Odyssey In Rice Type Classification Through Transfer Learning
Maximum Marks	4 Marks

## 1. Project Phases and Timeline

Phase	Duration	Key Activities	Deliverables
<b>Phase 1: Problem Definition &amp; Research</b>	Week 1–2	Literature review, define objectives, understand stakeholders, select ML approach	Problem statement, related work, requirements
<b>Phase 2: Data Collection &amp; Preparation</b>	Week 3–4	Gather rice grain images, label dataset, clean and augment data	Labeled, preprocessed dataset
<b>Phase 3: Model Development</b>	Week 5–6	Implement CNN-based models (VGG16, ResNet50, EfficientNet), apply transfer learning	Initial model training results
<b>Phase 4: Evaluation &amp; Optimization</b>	Week 7–8	Fine-tune models, run cross-validation, analyze errors, improve performance	Evaluation metrics, confusion matrix
<b>Phase 5: Visualization &amp; Reporting</b>	Week 9	Create Power BI dashboards and charts, visualize model performance and data trends	Finalized visuals and interpretation