

**MEDHA HEGDE**

**1BM21AI066**

**7A AIML**

**Analysis based on the provided ROC results in The workshop:**

**1. Big Scale MNC Banks:**

- **Model:** Logistic Regression OVERSAMPLING.
- **Reason:** Highest ROC AUC score (0.935) and high recall (0.886), critical for reducing false negatives and ensuring robust fraud detection for large-scale operations.

**2. Local Small Banks:**

- **Model:** Decision Tree.
- **Reason:** Simplicity and balance of recall (0.821) and ROC AUC score (0.910) make it ideal for smaller data volumes and resource constraints.

**3. Medium Scale Banks:**

- **Model:** Logistic Regression ADASYN.
- **Reason:** Excellent balance of high recall (0.894) and ROC AUC score (0.934), suitable for mid-sized operations that require efficient and reliable fraud detection.

**4. Other Types (e.g., Regional Banks):**

- **Model:** Decision Tree OVERSAMPLING.
- **Reason:** High ROC AUC score (0.910) with enhanced recall (0.829) through oversampling, fitting regional banks with moderate data.