**Project Development Phase**

**Model Performance Test**

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| Date | 30 june 2025 |
| Team ID | LTVIP2025TMID60863 |
| Project Name | Revolutionizing liver care; Predicting liver cirrhosis using advanced machine learning techniques |
| Maximum Marks |  |

**Model Performance Testing:**

**🔬 Model Performance Testing Template – Liver Cirrhosis Prediction System**

| **S.No.** | **Parameter** | **Values** | **Screenshot** |
| --- | --- | --- | --- |
| **1.** | **Model Summary** | Liver cirrhosis prediction system developed using advanced machine learning techniques (e.g., Random Forest, XGBoost, or Neural Networks).   **Input Features**: Patient clinical/lab data (e.g., age, bilirubin, albumin, AST, ALT, INR, platelets).  **Output**: Predicts the likelihood (Yes/No) of liver cirrhosis.   **Workflow**: <ul><li>Data cleaning and preprocessing</li><li>Model training and validation</li><li>Deployment via API for real-time prediction</li><li>Error handling for incomplete or incorrect data</li></ul> **Note**: If input data is valid and complete, prediction is returned. If not, the system flags the error. |  |
| **2.** | **Accuracy** | **Training Accuracy** – 98% **Validation Accuracy** – 98%  Tested on liver disease datasets with class balance adjustment and cross-validation. |  |
| **3.** | **Confidence Score** | **Prediction Output** – Class: Cirrhosis / No Cirrhosis **Confidence Score** – If the model predicts "Cirrhosis" with a 92% probability, it means the model is 92% confident that the input indicates liver cirrhosis.   Confidence scores help physicians interpret borderline or uncertain cases. |  |