**Model Development Phase Template**

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| Date | 20 June 2024 |
| Team ID | 740018 |
| Project Title | Determine: Loan from KIVA crowdfunding data |
| Maximum Marks | 6 Marks |

**Model Selection Report**

**The Model Selection Report of KIVA crowdfunding data identifies the optimal predictive model by comparing performance metrics of various algorithms, ensuring accurate forecasting of loan outcomes for effective resource allocation.**

**Model Selection Report:**

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| **Model** | **Description** | **Hyperparameters** | **Performance Metric (e.g., Accuracy, F1 Score)** |
| Logistic Regression | A statistical model that uses logistic function to model a binary dependent variable | Regularization: L2, Solver: liblinear | Accuracy: 85%, F1 Score: 0.84 |
| Random  Forest | An ensemble learning method using multiple decision trees for classification. | n\_estimators: 100, max\_depth: 10, min\_samples\_split: 2 | Accuracy: 88%, F1 Score: 0.87 |
| XGBoost | An optimized gradient boosting algorithm. | n\_estimators: 100, learning\_rate: 0.1, max\_depth: 6 | Accuracy: 89%, F1 Score: 0.88 |
| SVM | A supervised learning model for classification | Kernel: RBF, C: 1.0, gamma: scale | Accuracy: 86%, F1 Score: 0.85 |
| Neural Network | A deep learning model with multiple layers of neurons. | Layers: 3, Neurons per layer: [64, 32, 16], Activation: ReLU | Accuracy: 90%, F1 Score: 0.89 |