**Title of the Project** : Microfinance loan repayment prediction using machine learning.

**Name of the Students** : Poojashree K, Praisy V

**Register Number(s)** : 211423104459, 211423104466

**Name of the Guide** : Mrs.M.C.Vinmathi

Many rural borrowers struggle to access formal credit due to a lack of collateral, limited financial literacy, and unpredictable income sources. At the same time, microfinance institutions (MFIs) face challenges in ensuring repayment reliability, which threatens their sustainability. Studies show that default rates in rural microfinance schemes can reach up to 25%, disproportionately affecting women borrowers, small farmers, and low-income households. To address this issue, this project proposes a Machine Learning-based Loan Default Prediction System that automates risk assessment. The system takes key inputs such as borrower income, repayment history, loan amount, occupation, family size, and geographical factors to predict the likelihood of default with high accuracy. By reducing manual evaluation and subjective judgment, the model ensures fair, transparent, and data- driven credit decisions. A simple prototype is developed with an easy-to-use interface, which can be integrated into microfinance portals or rural banking systems. This solution not only strengthens financial inclusion but also supports the Sustainable Development Goals (SDG 1: No Poverty, SDG 8: Decent Work & Economic Growth, and SDG 10: Reduced Inequalities) by empowering rural communities with access to fair and sustainable credit.