Project Design Phase
Solution Architecture

Date	14 Feb 2026
Team ID	LTVIP2026TMIDS47450
Project Name	prosperity prognosticator: machine learning for startup success prediction
Maximum Marks	4 Marks

Solution Architecture:

- The business problem addressed is predicting the success of startups using data-driven methods, which helps investors, entrepreneurs, and policymakers make informed decisions and reduce financial risk.
- The project employs Machine Learning classification algorithms, with Random Forest Classifier selected as the primary model due to its ability to handle complex, non-linear relationships and improve prediction accuracy.
- The system accepts startup-related input features such as funding details, market characteristics, location, and operational information entered by users through a web interface.
- The model processes the input data through a machine learning pipeline that includes data preprocessing, feature selection, model training, and evaluation to predict whether a startup is likely to succeed or fail.
- The architecture includes stages such as data collection, preprocessing, train-test splitting, model training, performance evaluation, prediction generation, and result display. The system can be improved through iterative retraining using updated startup datasets.
- Deployment is carried out via a web-based interface using frameworks such as **Flask**, enabling users to enter startup details and receive instant predictions. The application can be hosted on cloud platforms for easy accessibility and scalability.

Example - Solution Architecture Diagram:

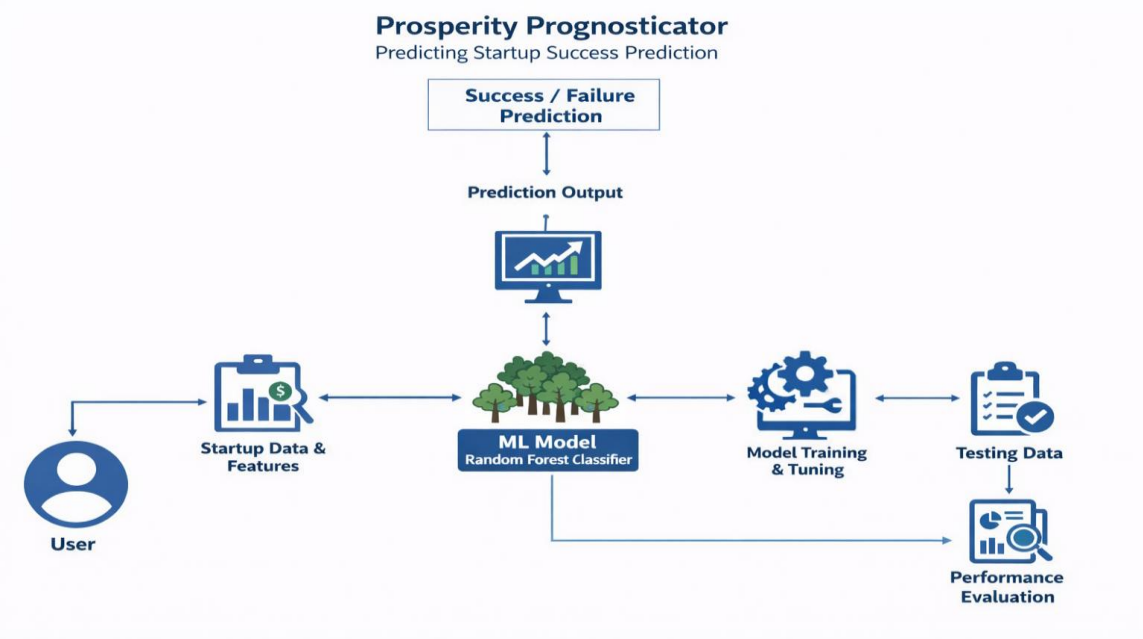

Figure 1: Rice Type Classification Through Transfer Learning