**FOREST COVER TYPE PREDICTION**

**Using Different ML Algorithms**

**PROBLEM STATEMENT:**

Effective forest management and conservation require accurate predictions of forest cover types. Despite advancements in technology and data availability, the lack of precise predictive models poses a significant challenge.

Developing robust machine learning algorithms capable of reliably predicting forest cover types based on diverse environmental data sources remains a critical need.

This business problem statement aims to address the imperative for accurate, scalable, and interpretable predictive models that support informed decision-making in forestry practices, biodiversity conservation, risk mitigation, and sustainable land use planning.

**OBJECTIVES:**

• Develop an Al-driven system capable of accurately predicting forest cover types using machine learning algorithms. This system should prioritize interpretability, aiming to provide insights and explanations for predictions, enabling better-informed forest management

decisions.

• The objective includes enhancing the model's ability to interpret and communicate the rationale behind predictions, thereby aiding forest management practices, conservation efforts, risk assessment, and land use planning within the forestry domain.

**SOLUTION APPROACH**

Machine Learning – Classification (Implemented almost 14 Algorithms)

1. Logistic Regression
2. Decision Tree
3. Random Forest
4. Gradient Boosting
5. Support Vector Machine
6. K-Nearest neighbours
7. Naïve Bayes
8. AdaBoost
9. Bagging Classifier
10. Extra Trees
11. Stochastic Gradient Descent
12. Quadratic Discriminant Analysis
13. Artificial Neural Network (ANN)