Machine learning (ML) is a subfield of artificial intelligence (AI) that focuses on building systems capable of learning from data.

Instead of being explicitly programmed, ML algorithms use statistical methods to improve their performance on a task as more data becomes available.

One of the most widely used ML algorithms is the Random Forest, which combines multiple decision trees to improve accuracy and reduce overfitting.

Other popular algorithms include Support Vector Machines (SVMs), k-Nearest Neighbors (k-NN), and Gradient Boosting Machines (GBM).

In this project, we collected a dataset of 10,000 images and trained a convolutional neural network (CNN) to classify them into ten categories.

We evaluated the model using accuracy, precision, recall, and F1-score.

The results showed an accuracy of 92%, with room for improvement through data augmentation and hyperparameter tuning.