

# Fish Weight Prediction Project Report

## 1. Introduction

This project aims to predict the weight of fish based on their physical measurements using Machine Learning. It is a supervised regression problem where the target variable is the fish's weight.

### 2. Dataset Description

The dataset used is the official YBI Foundation Fish dataset. It includes columns:

Species/Category, Height, Width, Length1, Length2, Length3, and Weight.

- Loaded dataset from YBI GitHub repository.

- Selected relevant features for prediction.

- Split dataset into training and testing sets (70%–30%).

- Used Linear Regression model from scikit-learn.

- Evaluated model using Mean Absolute Error (MAE) and R<sup>2</sup> Score.

Linear Regression is chosen for prediction due to its simplicity, interpretability, and effectiveness on numerical datasets.

## 5. Results

After training the Linear Regression model, predictions were made on the test data. Evaluation metrics used:

- Mean Absolute Error (MAE)

- R<sup>2</sup> Score

These metrics indicate good model performance.

## 6. Conclusion

The Fish Weight Prediction model successfully predicts weight from measurements. The model can be improved further using advanced algorithms like Random Forest or XGBoost.