MACHINE LEARNING

TARGET: HIGH SCHOOL STUDENT

PURPOSE: GIVING AN OVERVIEW OF THE SUBJECT

GROUP 17

WHAT IS MACHINE LEARNING?

Ever wonder how your phone recommends music or predicts your next word? It's not magic, it's Machine Learning!

Machine Learning trains computers to learn from data like photos, words, and numbers. Think of it as giving them superpowers!

From recognising faces to mastering chess, different types of Machine Learning tackle different problems.

Overwhelmed by info? ML can analyze massive amounts of data, uncovering patterns humans miss.

WHY DO WE NEED MACHINE LEARNING?

Unleashing superpowers: Imagine your phone predicting your next word, recommending your perfect meal, or translating languages in real-time. Machine learning brings these superpowers to life!

Solving mysteries like detectives: Researchers use machine learning to unlock secrets, from predicting disease outbreaks to finding new planets.

Automates the mundane: From self-driving cars to robotic surgery, machine learning transforms industries and shapes the future of work.

HOW DOES MACHINE LEARNING WORK?

Data Collection: Data Preprocessing: Clean and normalize data to ensure consistency.

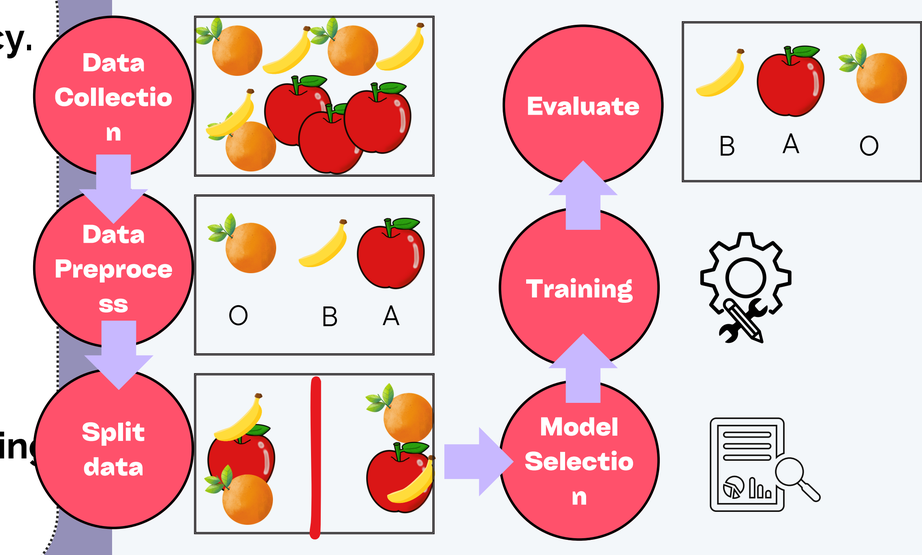
Split the Data: Create Training, Validation (optional), and Test sets.

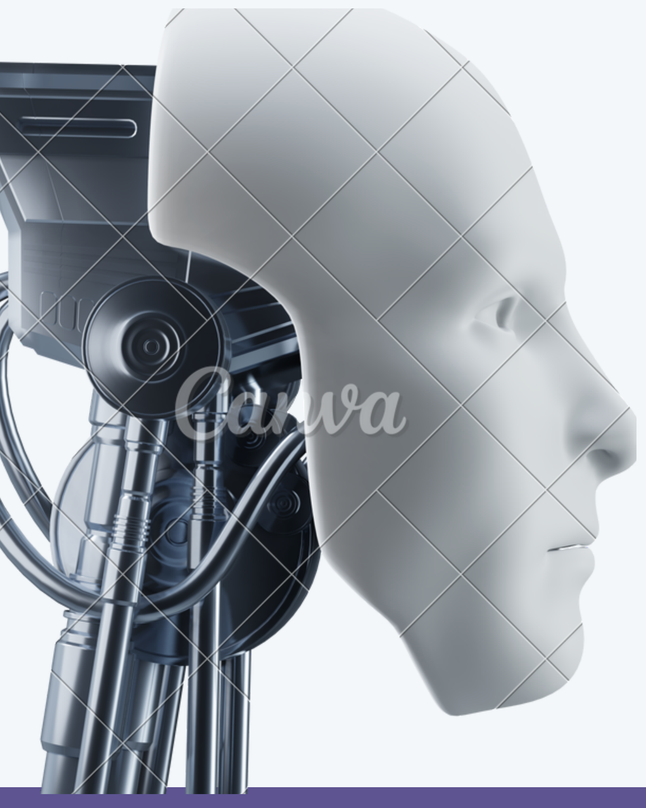
Choose a Model: Select an algorithm suitable for your problem and data.

Train the Model: Fit the model to the training data and adjust parameters.

Validate the Model (Optional): Use the validation set to fine-tune and prevent overfittin

Evaluate the Model: Assess its performance using the test set. e.g: accuracy





WHAT IS THE FUTURE OF MACHINE LEARNING?

- Self-Learning Machines:Machines in the future will possess the capability to autonomously acquire knowledge and enhance their own performance.
- Cross-Domain Integration:The future of ML necessitates seamless amalgamation with diverse technological domains.
- Healthcare and Bioinformatics：The forthcoming era will witness enhanced precision in treatment and simplified health management through the fusion of machine learning with healthcare and bioinformatics.
- Smart Manufacturing and IoT：Bringing smarter production processes and top-notch product quality control.
- Environmental Science：Speeding up how we respond and make decisions about environmental issues.