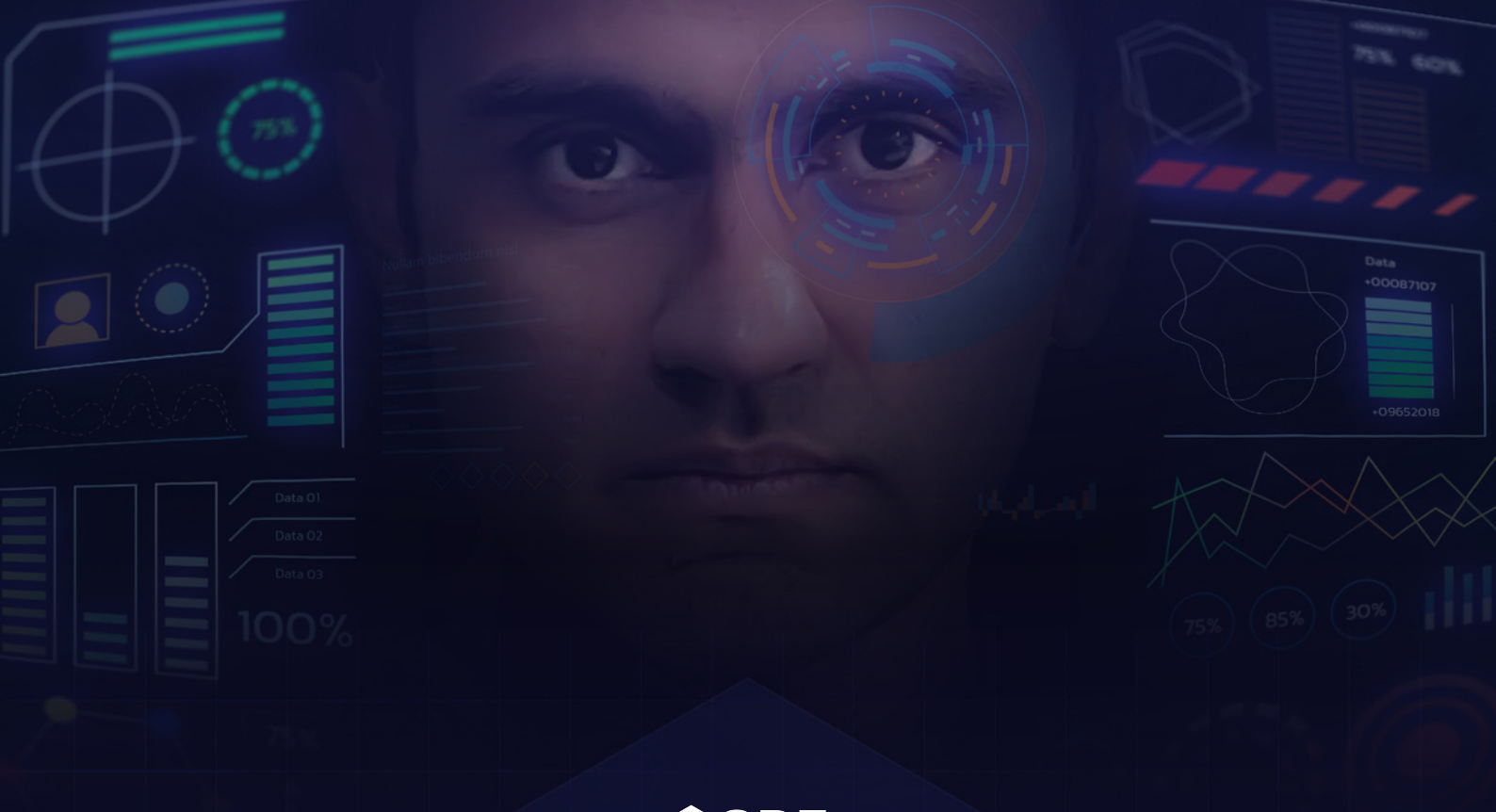

CODE BASICS

DEMYSTIFY AI:

MACHINE LEARNING

TAKEAWAYS

codebasics.io

What is Machine Learning?

1. Email spam detection is enabled by a machine learning model.
2. A machine is trained by providing the input and output data not the logic.
3. Machine learns to infer the logic based on input and output data provided.

Classification vs Regression

1. There are two major use cases of machine learning: Classification and Regression.
2. Classification is about dividing the data into specific groups, such as 'red' or 'blue', 'male' or 'female'.
3. Regression is about predicting a numerical value based on the previous values and its related features.
4. Classification technique is often used in fraud detection, news category classification etc.
5. Regression technique is often used to predict stock prices, housing prices, salaries etc.

Supervised vs Unsupervised Learning

1. Machine learning methods are broadly classified into two types: Supervised learning and Unsupervised learning.

2. Supervised learning is a method in which the model is trained on a labeled dataset such as house price prediction.

3. Unsupervised learning is a method in which the input data is not provided with labels and the model is expected to classify the data based on the hidden patters and structures like document classification.

ML Algorithms Overview

1. Linear Regression and Polynomial regression are some of the popular regression algorithms.
2. Logistic Regression, Decision Tree, Random Forest and XG Boost are some of the commonly used classification algorithms.
3. K-means, DB Scan and Hierarchical clustering are some of the commonly used algorithms under Unsupervised learning.
4. Though Logistic Regression has the word 'Regression' in it – it is commonly used in classification problems.
5. Customer churn prediction is a good usecase for Logistic Regression.
6. Salary predictor / calculator is a good usecase for Decision Tree Algorithm.

Tooling for ML

1. Scikit learn is the main python library used for machine learning.
2. You can go to scikit-learn.org website to understand how you can use scikit learn for various applications.
3. Google collab is an alternative to Jupyter Notebook which helps you to run machine learning models using google cloud.
4. Amazon SageMaker is another famous option which allows you to run your ML model in the cloud and provides several other options.
5. Azure Machine Learning is another option which is getting popular these days because of it's integration with OpenAI.