Machine learning basics

Machine learning: Empowering AI, fueling future growth

Machine learning is a branch of artificial intelligence that enables computers to learn and make predictions or decisions without being explicitly programmed.

- ChatGPT is based on machine learning! It utilizes a deep learning model called GPT (Generative Pre-trained Transformer) that has been trained on a vast amount of text data using machine learning techniques.

The demand for Machine Learning skills is increasing every year!

- The future of machine learning is uncertain due to rapid AI advancements, but the foundational basics will remain unchanged and continue to be fundamental principles in the field.

Math

Math knowledge may not be crucial these days however it would be helpful to understand what's going on under the hood

- Statistics
- Linear Algebra
- Calculus
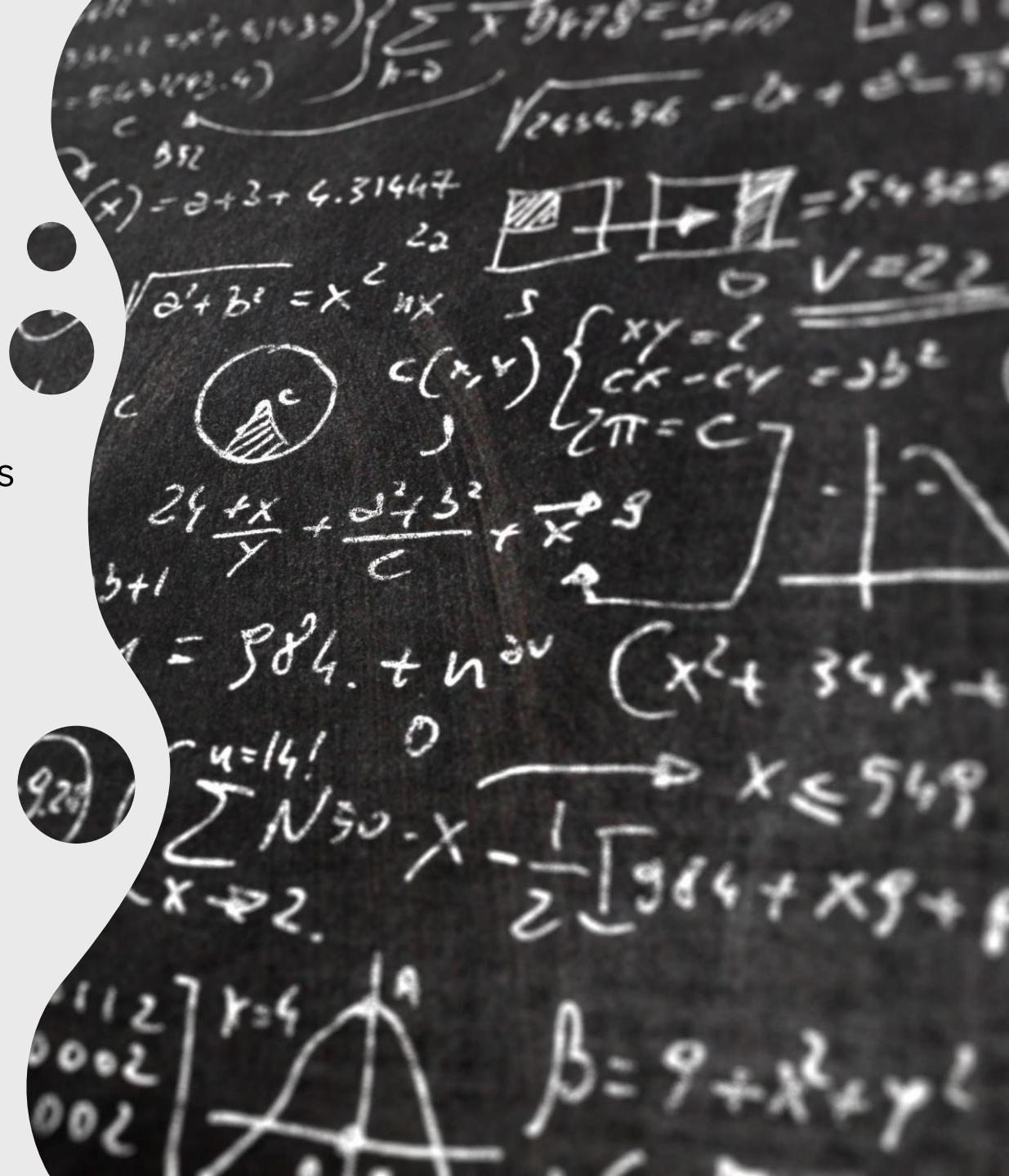
The go-to language for building and deploying machine learning models

- Readable and expressive syntax

- Dynamic typing

- Extensive standard library

- Interpreted and interactive

- Large ecosystem of libraries

- Object-oriented programming (OOP) support

- Cross-platform compatibility

- Integration and interoperability

- Community-driven development

ML Tech Stack

low level

NumPy
Fundamental package for scientific computing in Python

pandas
A package for data science/data analysis and machine learning tasks

matplotlib
A comprehensive library for creating static, animated, and interactive visualizations in Python

high level

scikit learn
Simple and efficient tools for predictive data analysis

PyTorch
A fully featured framework for building deep learning models

TensorFlow
Library for machine learning and artificial intelligence with a particular focus on deep neural networks

Some ML terminology

- Supervised Learning
- Unsupervised Learning
- Reinforcement Learning
- Feature
- Training Data
- Testing/Validation Data
- Model
- Overfitting
- Underfitting

Interactive session!

Please visit my GitHub page and press 'launch'

https://github.com/barimani/ml_basics

Machine Learning basics with Pandas and Scikit-learn

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