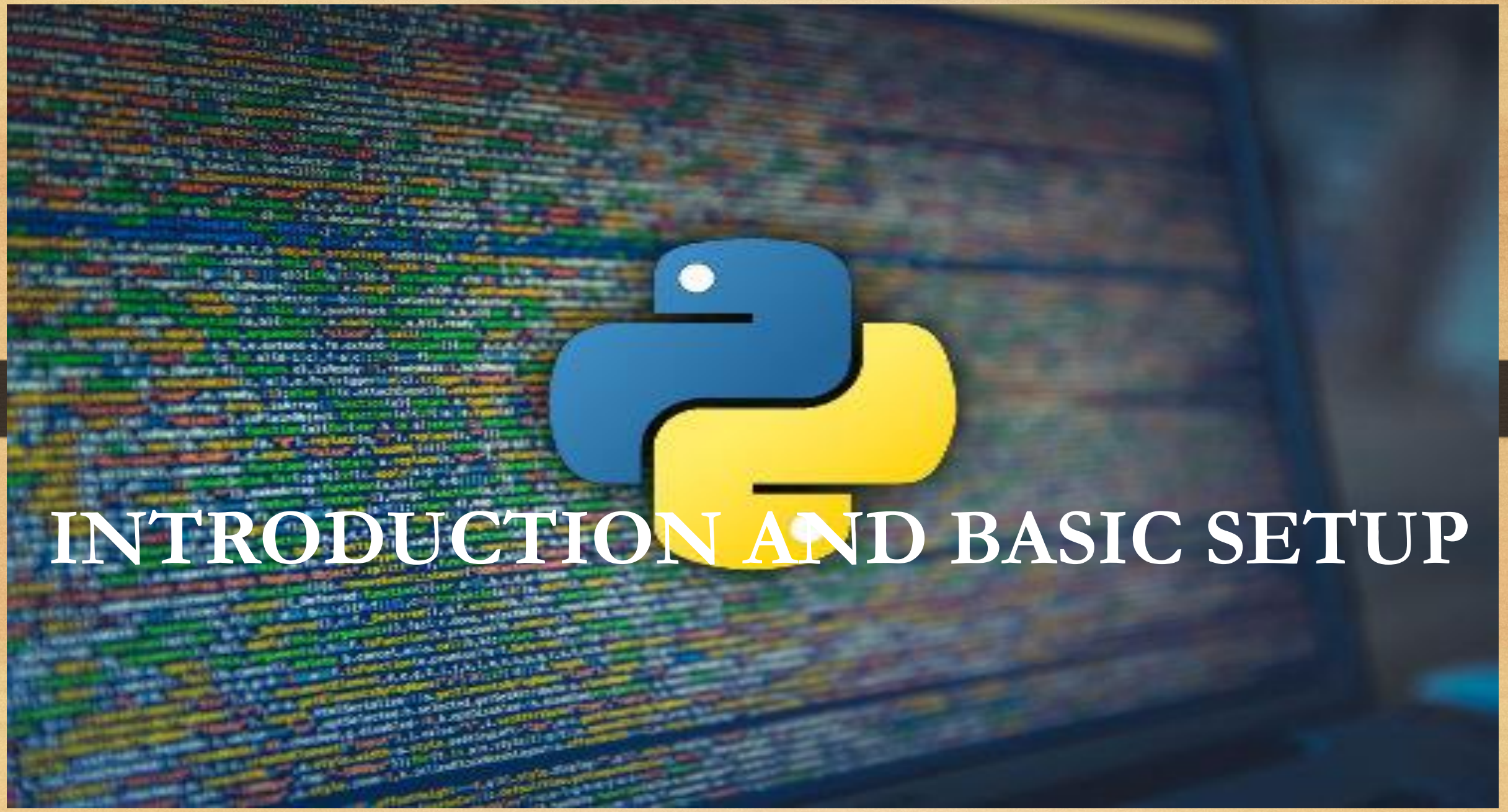

INTRODUCTION AND BASIC SETUP

TODAYS INDEX

- Introduction to python
- Python Importance
- Data Science
- Executing platforms
- Installation of ANACONDA
- Jupiter notebook
- Using GOOGLE COLLAB

INTRODUCTION TO PYTHON

- Python programming was first released in 1991 by a Dutch programmer, **Guido van Rossum**.
- Python is now one of the top five most popular programming languages in the world
- There are different versions released **Python** 2.0 (2000) ,**version**, 2.7 (2010), **Python** 3.0 (2008), now the newest version is **Python** 3.9

Python real-world applications :

- Web Development
- Game Development-
- Scientific and Numeric Applications
- Artificial Intelligence and Machine Learning
- Operating Systems
- Software Development

FEATURES OF PYTHON

- ✓ **Python = Simplicity-** We cannot stress this point enough, but Python is not only easy to learn but also easy to use and implement.
- ✓ **open-source language-** You don't need to pay charges to install and use Python – it is open-source. What this means is that the source code of Python is freely available to the public.
- ✓ **It is a high-level language-** Since Python is a high-level language, you need not remember its system architecture, not do you need to perform memory management. This feature contributes to Python's user-friendliness.

- ✓ **Object oriented -**An object-oriented programming language is one that can model real-world data

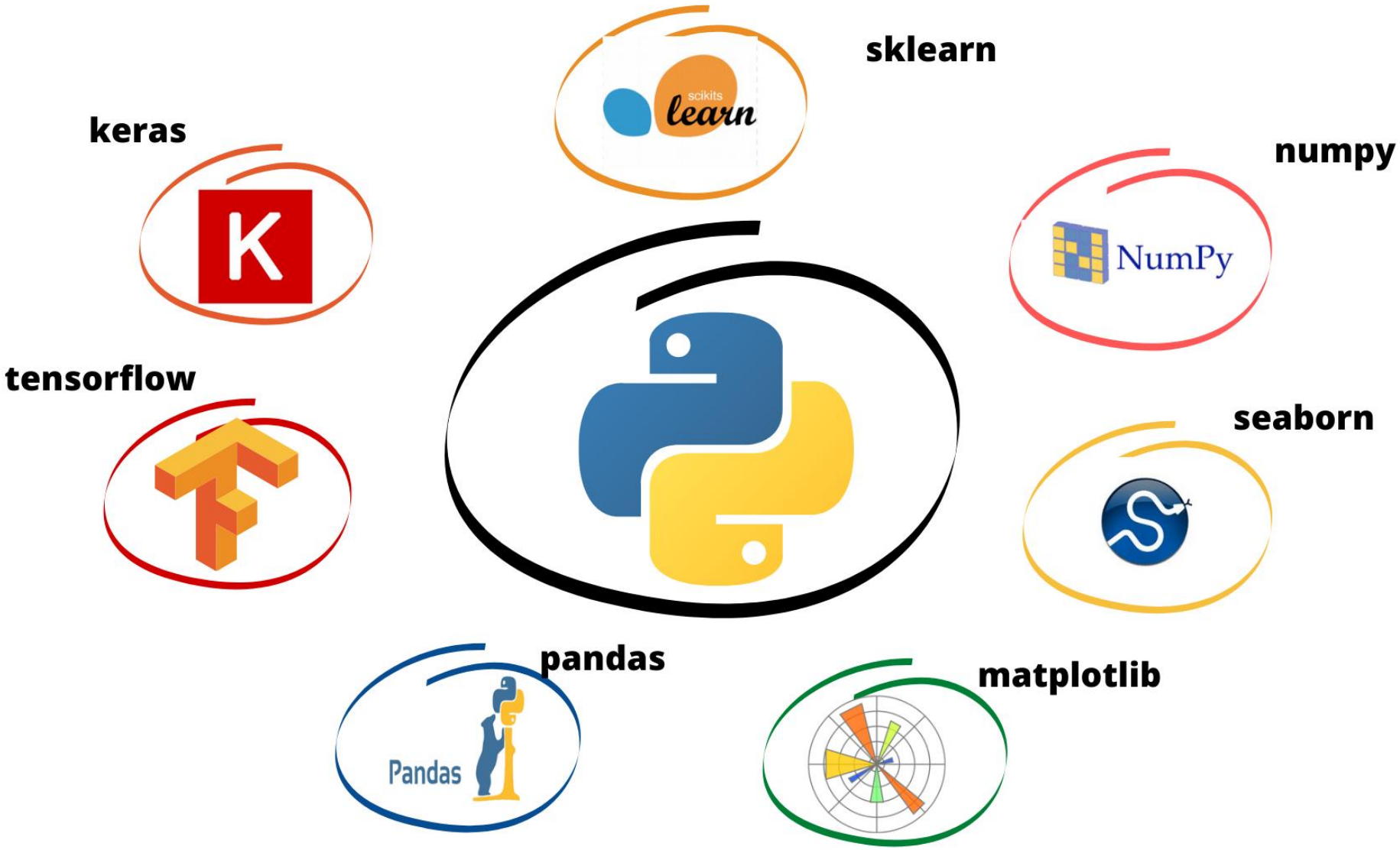
- ✓ **It is portable-** Python is portable and highly flexible, meaning, a Python code written for a Windows machine or a Linux machine can also run on iOS, and vice versa – you don't need to make any alterations in the code.

- ✓ **Standard Library-** The Python Standard Library is a collection of script modules accessible to a Python program to simplify the programming process and removing the need to rewrite commonly used commands.

- ✓ **It is interpreted-** Python is an interpreted language. What this means is that instead of executing the source code all at once, Python executes it line by line.

Python – A Backbone for DATA SCIENCE, AI

- **PYTHON** is one of the best language used by **data scientist** for various data science projects or application. **Python** provide great functionality to deal with mathematics, statistics and scientific function .
- **Python -** is best choice for Artificial Intelligence
- The python community has developed excellent libraries like Numpy, Pandas, sci-kit-learn, etc for working with data making the data scientist work easy .

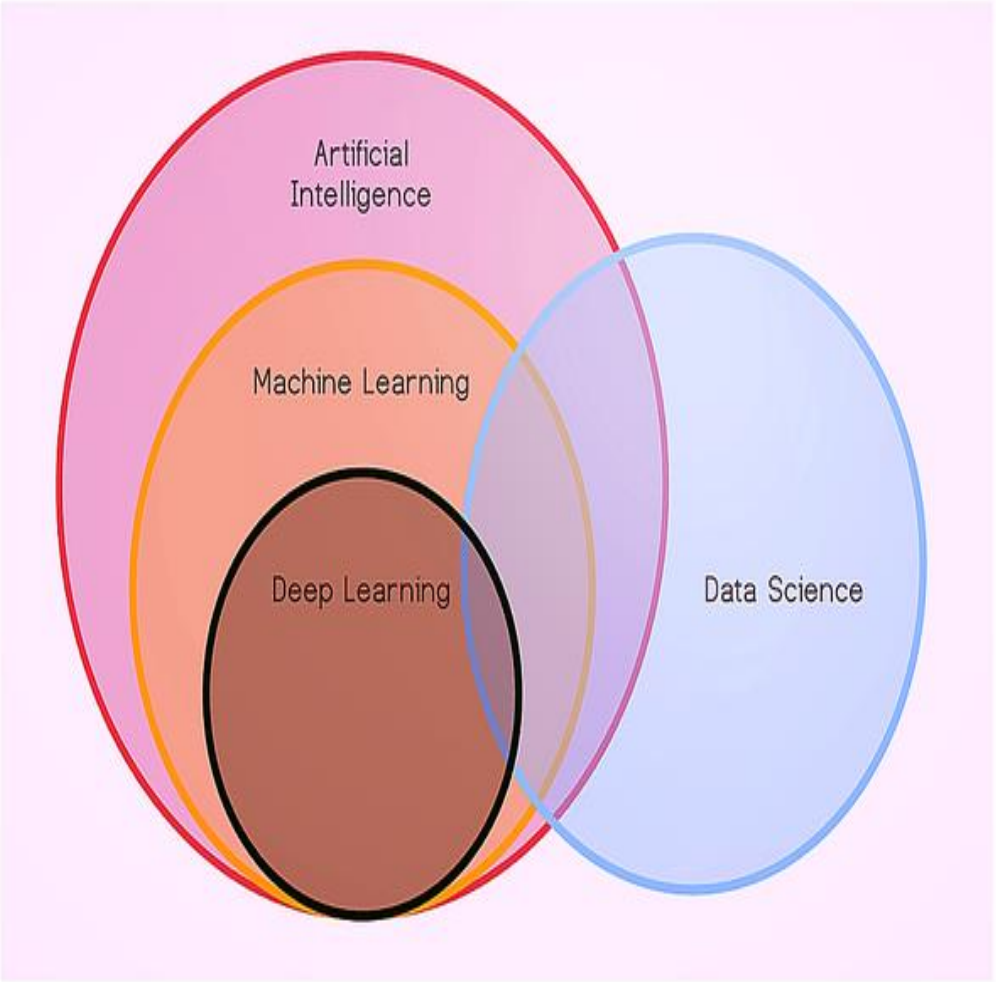

sklearn
keras
numpy
tensorflow
seaborn
pandas
matplotlib
scikits
learn
NumPy
Pandas

DATA SCIENCE

- Data science is the field of study that combines domain expertise, programming skills, and knowledge of mathematics and statistics to extract meaningful insights from data.

- Data science practitioners apply machine learning algorithms to numbers, text, images, video, audio, and more to produce artificial intelligence (AI) systems to perform tasks that ordinarily require human intelligence.

- Data science isn't exactly a subset of machine learning but it uses ML,AI to analyze data and make predictions about the future. Data science is its practical application complete focus on solving real-world problems.



Top Companies Using Python

EXECUTING PLATFORMS

We could do our projects or works of AI, ML with :

- **ANACONDA NAVIGATOR-**
  Anaconda Individual Edition is the world's most popular **Python** distribution platform with over 25 million users worldwide

- **GOOGLE COLLAB- Collab** allows anybody to write and execute arbitrary python code through the browser, and is especially well suited to machine learning, data analysis and education.

ANACONDA INSTALLATION

1. Visit www.anaconda.com
2. Click on products and choose “INDIVIDUAL OPEN SOURCE “
3. Now you can find a “ DOWNLOAD” button
4. Choose the appropriate OPERATING SYSTEM and correct click download
5. After downloading just click on “RUN AS ADMINISTRATOR “ and installation starts which includes few formal steps click next when required. You can check in this official link if you got stuck anywhere https://docs.anaconda.com/anaconda/install/windows/

6. Finally you end up with a anaconda navigator ICON
7.When you search at the windows start we can find

- ANACONDA NAVIGATOR,
- ANACONDA POWERSHELL PROMPT
- ANACONDA PROMPT

Anaconda Navigator is a desktop graphical user interface (GUI) included in **Anaconda®** distribution that allows you to launch applications and easily manage conda packages, environments, and channels without using command-line commands

Anaconda command prompt is just like command prompt (CLI) , but it makes sure that you are able to use anaconda and conda commands from the prompt, without having to change directories or your path. Anaconda Powershell Prompt can run powershell commands

JUPITER NOTEBOOK

- The Jupyter Notebook is an open-source web application that allows you to create and share documents that contain live code, equations, visualizations and narrative text.
- Uses include: data cleaning and transformation, numerical simulation, statistical modeling, data visualization, machine learning, and much more. This is so popular among the data scientists
- A **Jupyter Notebook** provides you with an easy-to-use, interactive data science environment
- Jupyter Notebook allows users to convert the notebooks into other formats such as HTML and PDF.

HOW TO USE JUPITER NOTEBOOK

- Click on launch button at Jupiter notebook , will be directed to a home page where you could see all the files in which the anaconda path is present
- Now at the right corner you can find a “NEW “ button now select the python Version as your coding to execute else you can go with the other options if required
- Now you can find a new file for execution is opened we can start executing now
- Apart from code you can even markdown, notebook convert or heading by changing the option at the top
- File menu has all the options to open or create notebooks and download in different formats
- We have you have different options and icons for managing our code cells can explore when you use this

GOOGLE COLLAB

1. Visit https://colab.research.google.com.
2. Sign in with your google account
3. On the left corner we have file in that we find new notebook then you can start executing
4. You don’t need to install anything you can directly access with above link
5. No need to install any modules to run any code, modules come preinstalled within Google Colab.
6. You can share your Google Colab notebooks very easily. Thanks to Google Colab everyone with a Google account can just copy the notebook on his own Google Drive account.