Alternate Universe Nio

Featuring:

Google Colaboratory

Spyder

Apache Zeppelin

By
Anusha Jangalapalli
Shenghao Huang
Sumalatha Konjeti

Google Colaboratory

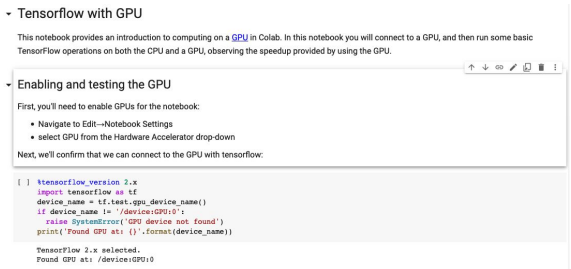
- Created by Google 2017
- GPU/TPI Support
- Google Drive
- Code anywhere

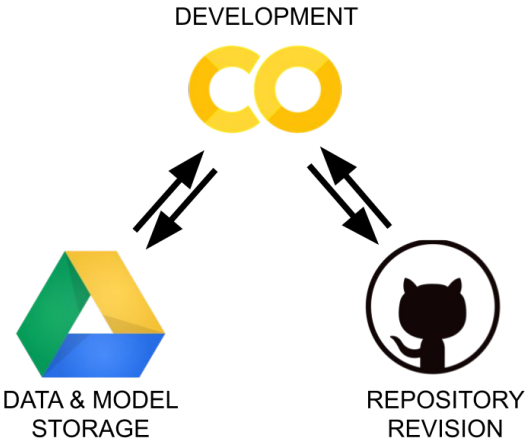
Special Features!

AI Hub

TensorFlow

NVIDIA CUDA





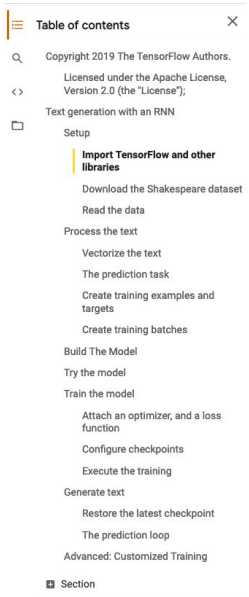
Jupyter Notebook!

- Kernel for multiple languages
- Data Visualization
- Markdown Cells
- Widgets

Colab vs Jupyter

- EASY
- No need to create virtualenv(Conda)
- Kaggle Import
- Organization
- IDE Environment

- Supports many kernels
- Easy Image sharing
- Documentation



CONCLUSION

SPYDER

Developed By Pierre Raybaut, Oct 2009

Features:

- Code Auto Completion
- Syntax Highlighting
- Debugging
- Great visual representation (GUI)

Special Features

- Its an IDE/notebook developed for programming written in Python for Python.
- It mainly comes with Editor
- IPython console
- Variable explorer
- Debugger
- Features like Syntax highlighting and better Graphical User Interface (GUI) are especially useful to work on projects with large code.
- Easy to debug and trace the values in real time using variable explorer

Spyder

- Variable Explorer(giving suggestions about name, size , type and value of the objects)
- Debugging the code
- Notebook have collapse and expand code feature
- Less computational time
- Great for big projects

Jupiter

- Data Analysis
- Good to show visualization
- Great for small projects
- Slower runtime
- Good to analyze data
- No IDE integration
- Not good for large projects because of no built in debugger

Contrast from jupyter

- Run code line by line
- It has PyQt5 library support
- Excellent variable explorer

Places to use instead of Jupyter:

- When working with large projects
- Unittesting
- GUI
- Debugging

Do You Recommend?

Zeppelin

- Who Built it --> Apache in 2013
- What is Apache Zeppelin?
  - A web-based notebook that enables interactive data analytics.
  - Multiple language backend embedded.
  - Supports Single user and multi-user deployment.

Special features

- Supports multiple languages like r, Scala, sql and many more in one dashboard.
- Uses interpreter for each paragraph.
- Visualize same data in multiple formats. For example bar chart to pie chart with no additional development and with just one click.
- Runs in parallel processing mode to make everything faster.
- Self-describing reports

Comparison between Jupiter / Zeppelin

Jupiter

- In-line code execution using blocks
- Multiple kernel support in different notebooks
- In-line graphing is supported

Zeppelin

- In-line code execution using paragraphs
- Multiple interpreter in same dashboard.
- In-line graphing is supported

Jupiter Vs Zeppelin

Jupiter

- Good for Data scientists
- Strong community
- Lots of examples
- One kernel for interpretation in one notebook
- Must define type of chart in the block / cell
- More extensions

Zeppelin

- Good for deep data analytics
- Small community
- Few but very well written examples
- Supports multiple interpreters in one dashboard.
- Standard zeppelin provides changing to different types of charts

Why Zeppelin over Jupyter

- Security -->Allows flexible security configurations for the end users.
- When multiple plots for charting is required.
- Multiple languages are supported in one dashboard.
- Much simpler data visualization.

Final showdown – Who wins???

- It depends
- If security is of very critical --> You will go for Zeppelin.
- Need to use wide range of languages --> you will go for Jupyter. Jupyter supports more than 85 languages whereas Zeppelin supports 20.
- Need different interpreters / different types of charts in one dashboard --> you will go for Zeppelin.
- Flexibility is of importance --> Jupyter.