

CS 3630 - Google Colab & ipynb Tutorial

What is an ipynb file?

An ipynb file is a notebook document created by Jupyter Notebook, an interactive computational environment that was created to help data science & ML professionals use Python to interact with their data. A .py file is a regular, plain text python file (that just contains code), whereas a .ipynb file is a python notebook that contains your code, results, and any other text or information.

What is Google Colab?

Google Colab is a tool that allows you to write and run python code in your browser itself, with no configuration required! It even allows you to save your precious Colab Files (which are .ipynb files) in Google Drive. The neat thing about Colab is that along with your executable python code and text, you can put in images, LaTeX, or HTML, making it incredibly useful for both teaching and learning (especially Robotics & Perception!).

How do we run an ipynb file in Google Colab?

In a .ipynb file, you can have both code and text. Each snippet of code or text is separated into cells, and each cell typically serves a specific purpose. For example, one cell can be for imports (numpy, pandas, etc), the next cell can be for defining any variables, and the following cell can be for computations. In between each of those you can even have cells of text that explain what you are doing, like commenting. Each individual cell can be run using the play button on the left of the cell, or using “Command/Ctrl+Enter”.

To run all of the cells, you can click the Runtime button on the Toolbar and click “Run All.”

What are the instructions for submitting a file?

In order to use a file as your own, once we give you the colab notebook link:

1. Click the “File” button on the toolbar at the top
2. Click “Save a Copy”
3. Work on the project within the copy (it will say “Copy of...”)

In order to submit a file, once you complete the project:

1. Click the “File” button on the toolbar at the top
2. Click “Download,”
3. And then click “Download .py”
4. You will now have the .py file on your local machine. Submit the .py file to gradescope

More resources!

Pretty much all the basics related to Colab can be found at colab.research.google.com. It includes a video tutorial, some cells to play around with, and some more information on Colab. Be sure to check out Project 0 for an introductory tour of Python for CS 3630.