**Introduction**

Hello everyone and welcome to Programming for Data Science course. My name is **Renato R. Maaliw III** and I’ll be your instructor for this course. I have thought variety of students on Python and Data Science and I am so excited to teach you about all these topics in this course. Data scientist has been ranked the number one job by ***GLASSDOOR*** and is an excellent career path providing not just **great salary potential** but the opportunity to work on some of the world's most interesting problems.

And this course will be covering the most popular Python data science libraries including Numpy, SciPy, Pandas, Seaborn, ScitKit-Learn, MatPlotLib, Plotly and so much more. Don't worry if you don't know all these library names yet by the end of the course you'll feel very comfortable putting these technologies on your skill sets.

Let's go ahead and take a quick look inside the course to see all the contents. We'll start off of a crash course in Python. This course is designed for students of some program experience. We will make sure to refresh your memory on important syntax and topics before we get started with the data analysis material of the course. Then we'll switch gears and start learning about **NumPy**, a scientific computing library for Python that's going to allow us to work with data arrays in Python.

Then we'll continue our understanding by learning about pandas. The fantastic data analysis library allows us to read them manipulate data from multiple sources including CSV files, Excel workbooks, HTML web pages for web scraping, SQL databases and much more. All along the way we have exercise notebooks or practice your new skills you'll be given real world data sets and questions to answer about them. After every exercise we also have a full solution walkthrough of the exercise questions.

Then we'll begin discussing basic data visualization by learning about the MatPlotLib library. Then later on we'll create beautiful statistical plots for the ***Seaborn*** library and we will also cover interactive plotting techniques so you can share your work in a way that's interactive for your users. We will also cover how to interactively plot financial information including coverage on geographical plotting techniques. After that we'll have a preview of using ***Scikit-Learn*** in Python to implement simple machine learning algorithms including topics such as linear regression logistic regression and several classification techniques. Advanced machine learning techniques will be covered in the next elective course (Machine Learning).

Every single section ends with full exercise and a solution walkthrough of the exercise questions. Furthermore, capstone projects and over a dozen fully implemented data science portfolio projects. What are you waiting for? Jumps start a career path in data science and learn with me today. I'll see you inside the course.

**Course Help and Welcome**

Hello everyone and thank you so much for enrolling in this course. I am so excited to help you on your journey to becoming a data engineer or data scientist. Before we get started I just wanted to let you know the best way to get help during the course. If you ever have question, the first thing you should do is to raise your hand (virtually) during online lecture or give me a private message preferably in FB Messenger (***Renato Racelis Maaliw III***) or via e-mail ([***renatomaaliw3@yahoo.com***](mailto:renatomaaliw3@yahoo.com)). Thank you so much for enrolling in the course and I can’t wait to get started.

**Course FAQs**

1. **Do you need to use Jupyter Notebooks and Anaconda?**

No, **you can use whatever IDE you want**! All the code I will show in the course is compatible with any text editor or IDE that works with Python! You can even convert the notebooks to .py files by using nbconvert or just by clicking Save As -> .py file. But for uniformity of results and interface I will recommend the Anaconda package.

1. **Where do I get the notebooks (exercise files) for this course?**

You can get them as a zipped file resource in the link below.

(<https://github.com/renatomaaliw3/public_files/tree/master/elective-1>)

If you do not have any internet connections please give me a message on my FB messenger or my personal e-mail on how we can make arrangements of sending the files in a compact disk (CD) or in a flash drive.

1. **Is there a good companion book for the course?**

Yep! You can find it here (<http://93.174.95.29/main/3692C8B9288C21D0247AAAD0CA217DED>)

1. **How do you get the Docstring and method list pop-ups in Jupyter Notebook?**

Use Tab with your cursor directly after a defined variable to see the list of methods. For example, given: **my\_list = [1,2,3]**you could then run that cell to define **my\_list** as a variable, afterwards you could just type: **my\_list.**(notice the dot) and then press Tab to see the list of methods. For the doctrings of functions, use Shift+Tab with your cursor right after the function.

1. **How do I know where my Notebooks are being saved?**

To find out where your notebooks are type: **pwd** in a cell. This will print your working directory.

1. **How can I change where the Notebooks are being saved?**

You will need to change the directory in which you are starting you Jupyter Notebook. Use **cd** in the terminal or command prompt to change to your desired directory.

1. **How do I open .ipynb files? What program do I choose?**

In order to open the Notebook Files you'll need to have Python and the Jupyter Notebook system installed, check out the Python Set-up section for more details on the installation of Python and the Jupyter Notebook system (or you can just follow the relevant instructions [here](http://jupyter.readthedocs.org/en/latest/install.html) if you feel more technical). Once you have python and the jupyter notebooks installed you are ready to open the notebooks using the following steps:

1. First open up your Command Prompt (search for **cmd** on a Windows machine) or if you are on a Mac use your terminal (Spotlight search for **terminal**).
2. Next in you terminal/command prompt type **pwd** and press enter (this will print your working directory)
3. Take note of what file directory was displayed, this is where you should save your **.ipynb** files (or a folder containing your **.ipynb** files)
4. Once your **ipynb**files or folder containing the files is in the location displayed from the **pwd** step go back to your terminal and type **jupyter notebook** and press Enter.
5. After Step 4 you should have a browser tab open up with the Jupyter Notebook system running inside of it.
6. Click on your Notebook (or go to your folder of Notebooks) displayed in the Jupyter Notebook and it will open in a new tab with the Notebook you selected.
7. You should now have successfully opened a Notebook file.