Intro. Artificial Intelligent — Course: IT097IU
International University – VNU HCM — Date: 13 March 2019
Dr. Ly Tu Nga — Time: 4 hours

Laboratory Session 1

Introduction to Python

Objectives

After completing this experiment, you will be able to:

- Getting start with Python
- Solving fundamental math problems
- Plotting data with many graphics

Materials Needed

- Getting Started in Python (Getting start with Python.pdf)
- Introduction to Python Tutorial: Anaconda: [https://www.youtube.com/watch?v=YJC6ldI3hWk] for window [https://www.youtube.com/watch?v=6LXwdjdACWM]

Submission

- Each exercise is saved in one file
- Make a zip file and upload the file to blackboard

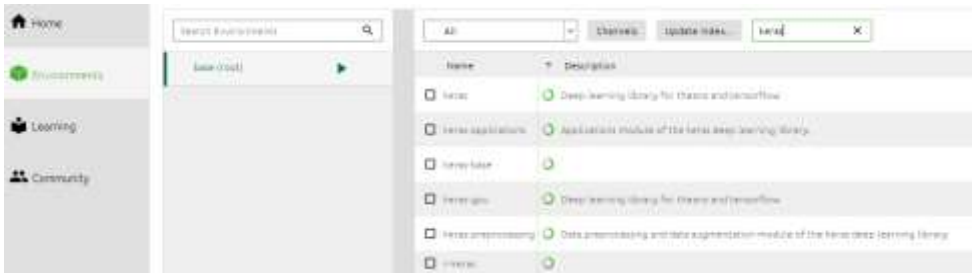
Procedures

P1. Introduction to Python

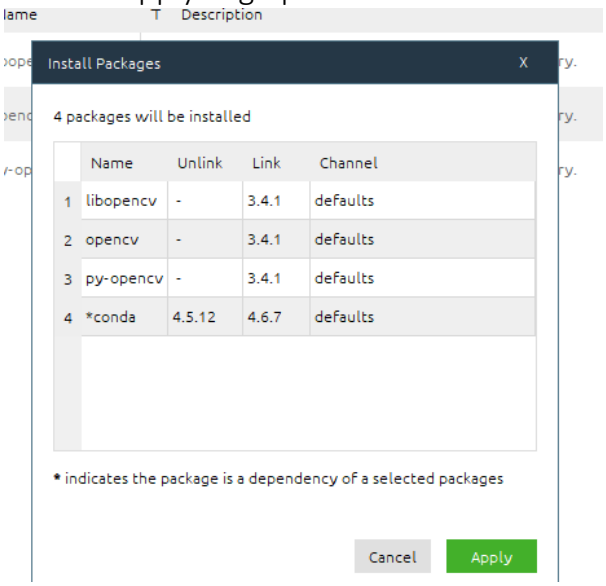
a. Data Types

b. Install packages

-Launch Anaconda navigator
-choose environments and select all and type the name of installed library , e.g keras



-choose apply. E.g opencv is installed as follows



c. Variables-operators

d. Functions

P2. Practice

-Load ***Lab 1_Read_Analysic_Data*** file

-Open and Run ***Read_data_csv.ipynb*** file

-show the Dataset Customer Churn and BigMartSales

- use *isnull().sum()* to check the percentage of missing values of 2 Datasets in each variable

-create data OriginalCustomerChurn as follows #observation and #Attributes

```
In [9]: data = OriginalCustomerChurn
        nobservations = data.shape[0]
        nattributes = data.shape[1]
        print("CustomerChurnData : Observations %d and Attributes %d" % (nobservations, nattributes))

        CustomerChurnData : Observations 3333 and Attributes 20
```

-use *describe*() for data OriginalCustomerChurn.

-create and describe data OriginalBigMartSales

- Use *sns.distplot*[1] to show histogram plot with *bin size =20* and determined *"Total day minutes"*
- Data Visualization[2]: draw Bar, Count, Histograms, Box, Pie for OriginalCustomerChurn
-Data encoding[3] for State, International Plan, Voice mail plan of OriginalCustomerChurn data.

[1] https://seaborn.pydata.org/generated/seaborn.distplot.html
[2] https://towardsdatascience.com/data-visualization-using-seaborn-fc24db95a850
[3]http://www.renom.jp/notebooks/tutorial/preprocessing/category_encoding/notebook.html