



Day 01 - Session 2

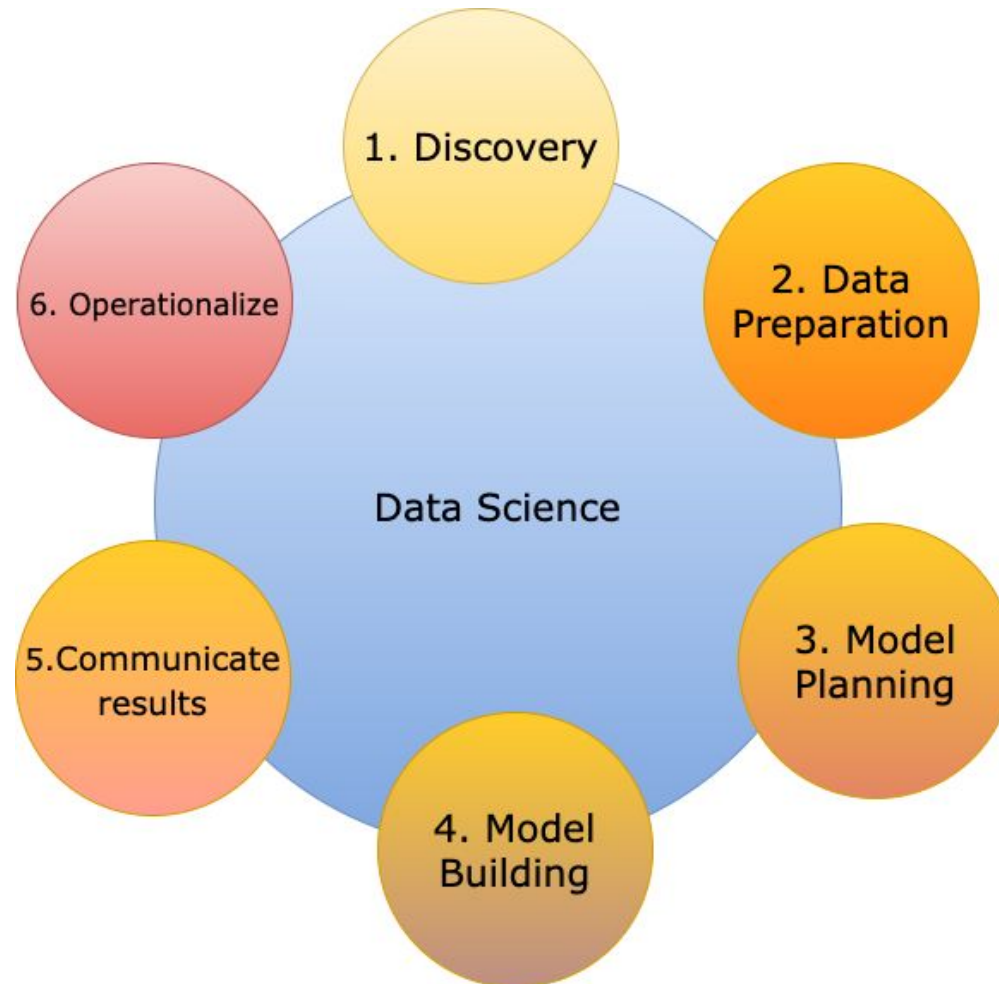
Kumari Neha

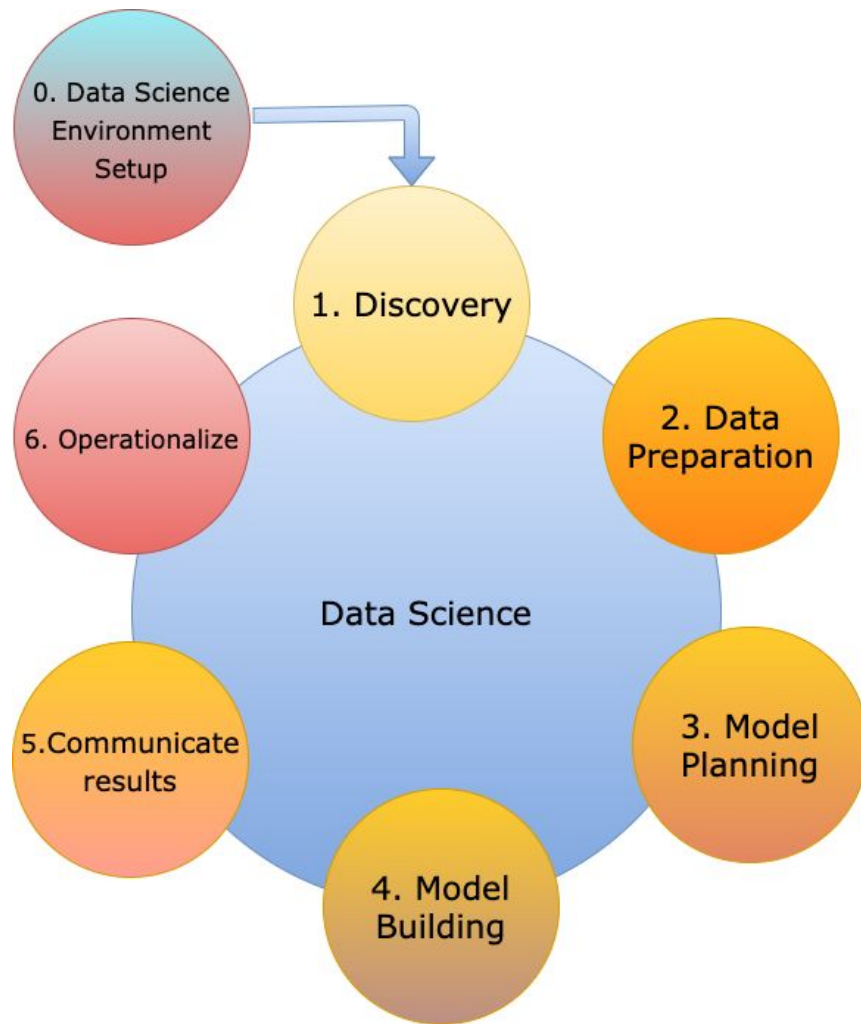
Ph.D. Research Scholar @Precog

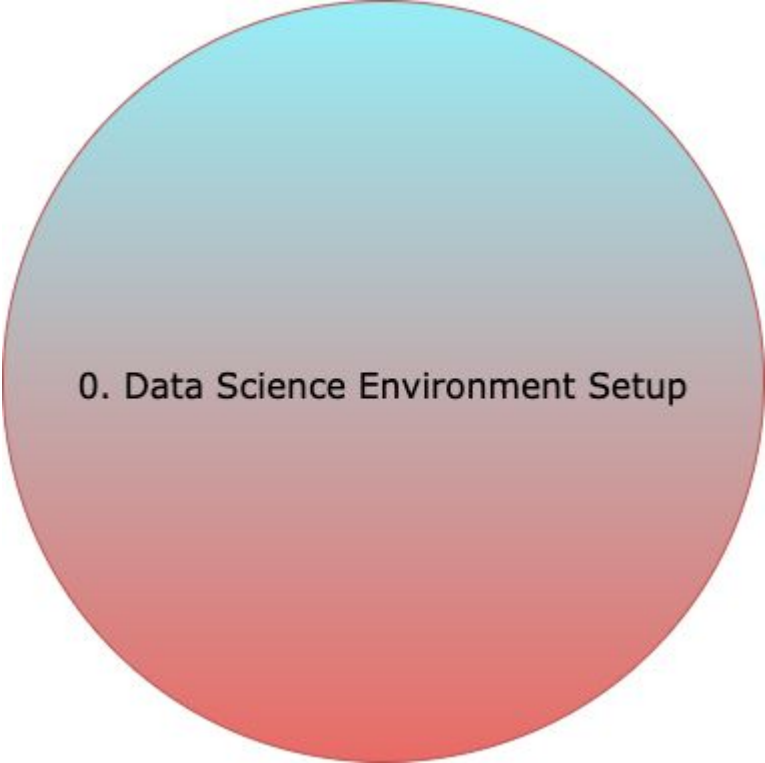


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INFORMATION TECHNOLOGY **DELHI**









0. Data Science Environment Setup

Setup a Data Science Environment

- **Python**

- an interpreted, object-oriented, high-level programming language
- Created by Guido van Rossum
- First released in 1991
- Stable release: 3.8.3 / 13 May 2020; 7 days ago
- OS: Linux, macOS, Windows Vista (and newer) and more
- Filename extensions: .py,.pyi,.pyc,.pyd,.pyo (prior to 3.5),.pyw,.pyz (since 3.5)



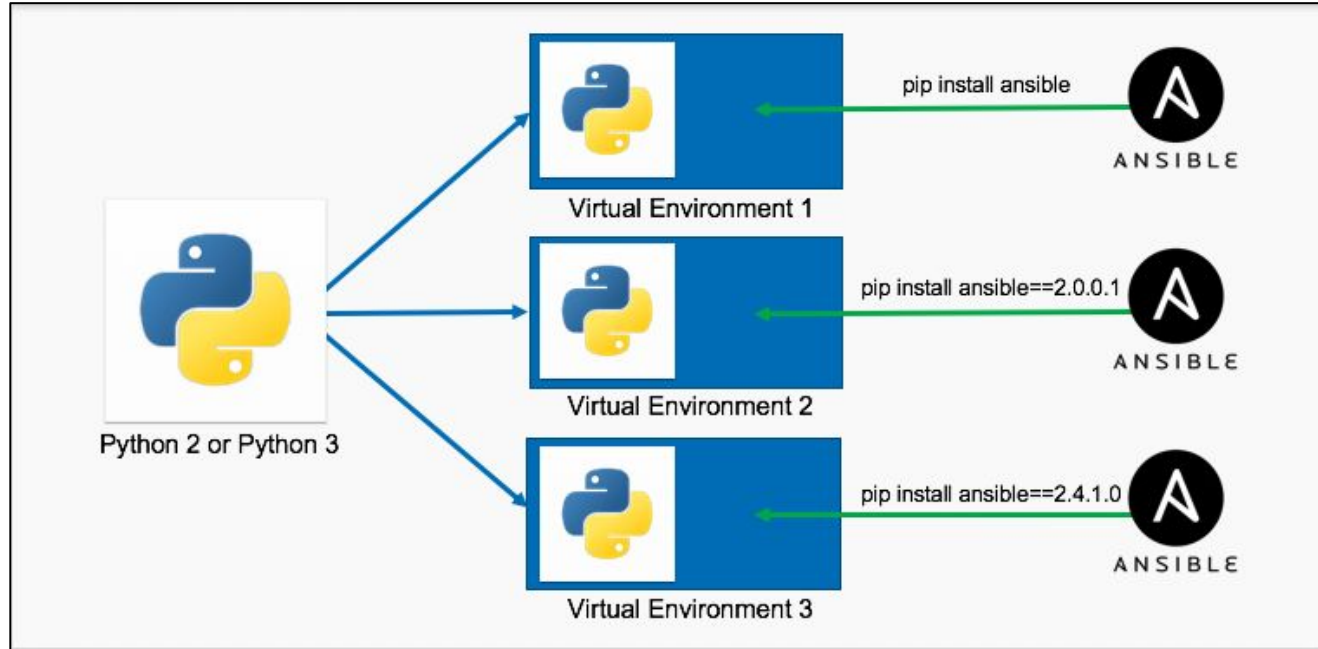
Python Distributions: Anaconda



- package manager and environment manager
- Python distribution that contains a collection of many open source packages pre installed
- Additional packages can use Anaconda's package manager conda or pip to install those packages

Virtual Environment

- Tool that helps to keep dependencies required by different projects separate by creating isolated python virtual environments for them.



Jupyter Notebook



- Interactive Python development environment
- Exercise: Run Jupyter notebook on Local system
 - Open Cmd

```
> jupyter notebook
```

- Available at : <http://localhost:portNumber/>
- Exercise: Run Python on Local System
 - Open Cmd

```
> python
```


Most important packages

- **NumPy**
 - large, multi-dimensional arrays and matrices
- **SciPy**
 - Python library for Optimization/Linear algebra/ etc.
- **Matplotlib**
 - Plotting library with Python
- **Pandas**
 - Data manipulation and analysis
- **Scikit-learn**
 - scikit-learn is a software machine learning library for Python

Let's go to the Pre-requisites File

- LINK LINUX
- LINK MacOS
- LINK Windows

Lets Try installing a package



Scipy

Google Colab

- [LINK](#)
- **Hosted by Google**
 - **Speed is advantage**
- **Access to GPU and TPU**
- **Stored in Google Drive(the “Cloud”)**
- **Many libraries for Machine learning pre-installed**

Google Colab

- Go to drive.google.com and Sign-up
- Go to New menu
 - Go to More
 - Laboratory
- **TROUBLESHOOT**
 - Connect more apps
 - Type in colab and it will be available
- **Caveats:**
 - If you leave colab notebook for a long time, computation won't be saved



Untitled0.ipynb ☆

File Edit View Insert

Runtime

Tools

Help

All changes saved



+ Code + Text



Run all ⌘/Ctrl+F9

Run before ⌘/Ctrl+F8

Run the focused cell ⌘/Ctrl+Enter

Run selection ⌘/Ctrl+Shift+Enter

Run after ⌘/Ctrl+F10

Interrupt execution ⌘/Ctrl+M I

Restart runtime ⌘/Ctrl+M .

Restart and run all

Factory reset runtime

Change runtime type

Manage sessions

View runtime logs

