greatlearning

Introduction to Data Science and Business Analytics

PGP DSBA Introductory Mentored Learning Session

Agenda

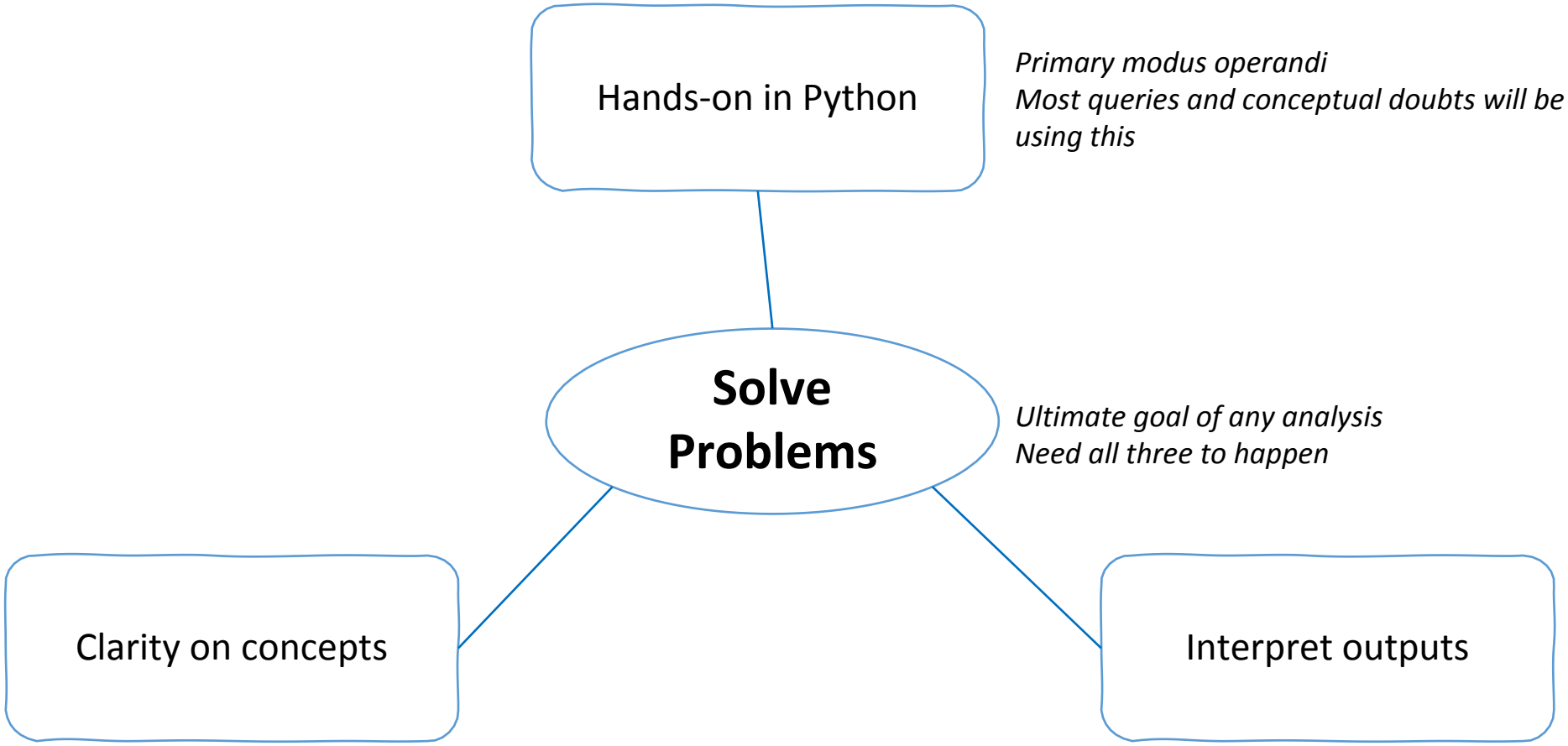
1. Welcome & Introductions
2. Overview of Analytics and Data Science
3. Getting help from Python
4. QnA

Agenda

1. Welcome & Introductions
2. Overview of Analytics and Data Science
3. Getting help from Python
4. QnA

Introductions

Expectations from Mentored Learning Sessions



Agenda

1. Welcome & Introductions
2. Overview of Analytics and Data Science
3. Getting help from Python
4. QnA

What is Analytics?

It is a process of going from *Data* to *Decisions*

All business decisions are aimed at solving a certain *problem* and achieving a certain *goal*

Solving problems requires *insights* into various consumer behaviors

These insights can come from *data* created due to consumer behavior

Let’s look at a set of decision in context of Retail

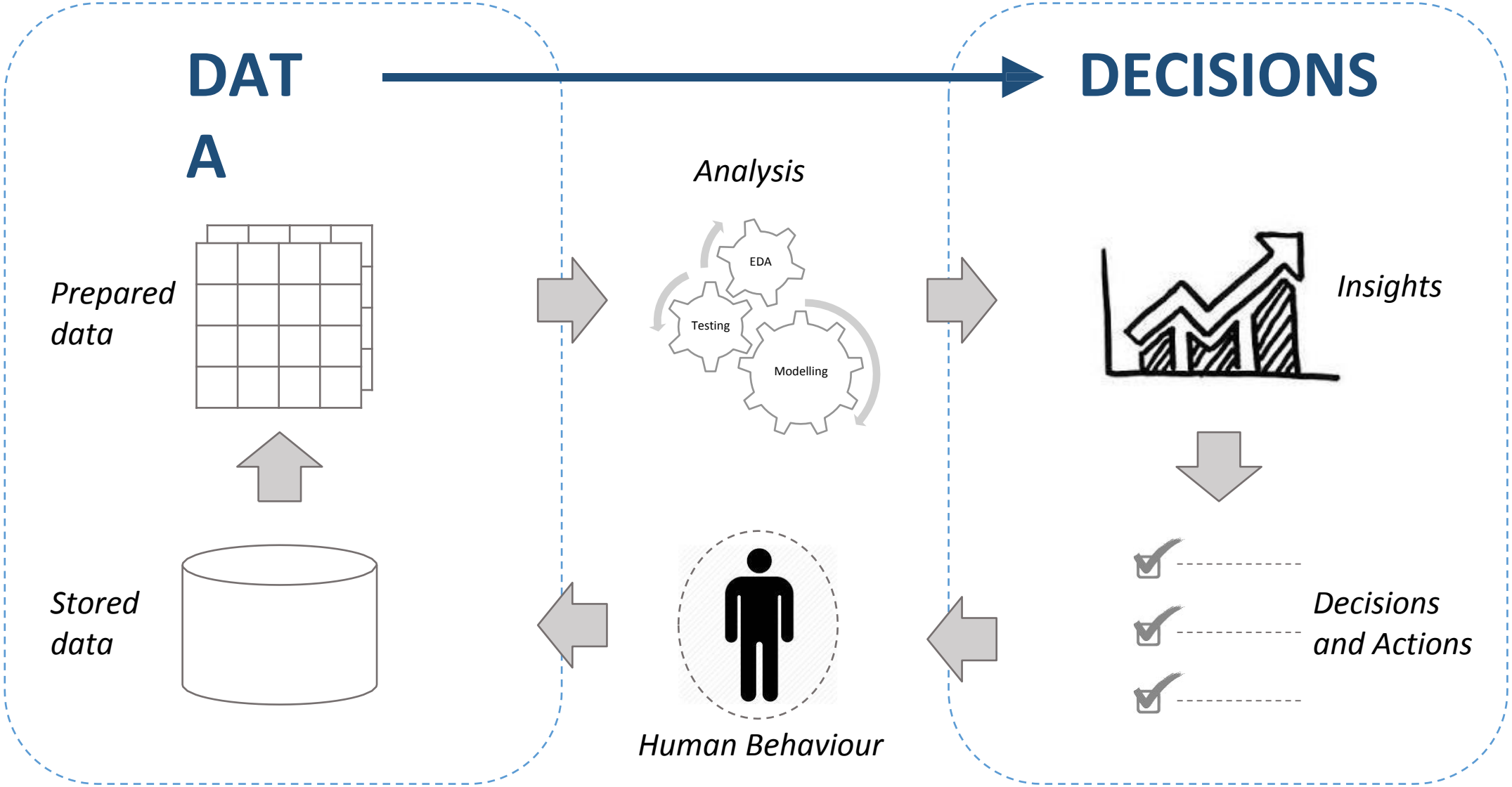
DATA

- *Customer spends*
- *Product sales data*
- *Customer demographics*
- *Macroeconomic trends*
- *Online user behaviour*
- *Online content usage*
- *Employee working activity*

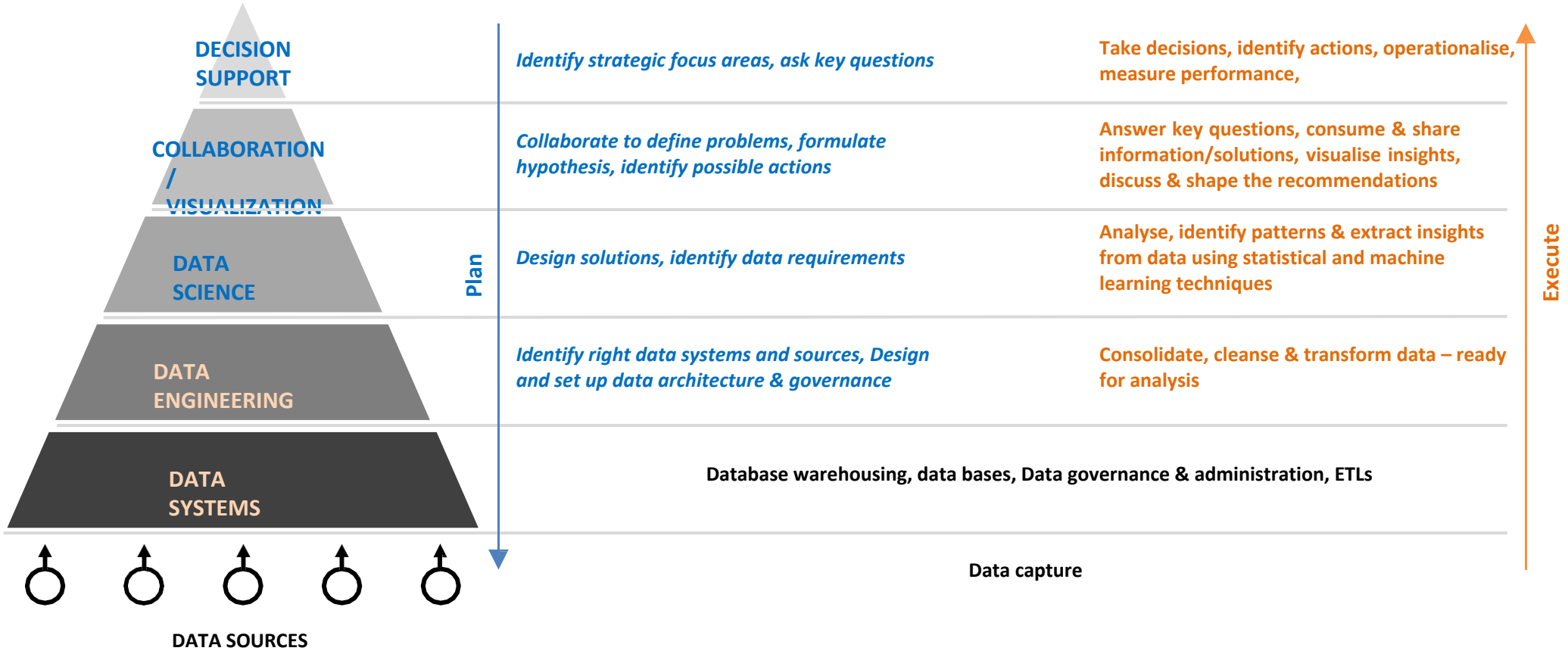
DECISIONS

- *What products should I place in my stores?*
- *What should be the price of my new product?*
- *Which customers should I target with marketing?*
- *Which social media platform should I advertise on?*
- *How to improve my customer satisfaction?*
- *How do I improve my productivity?*

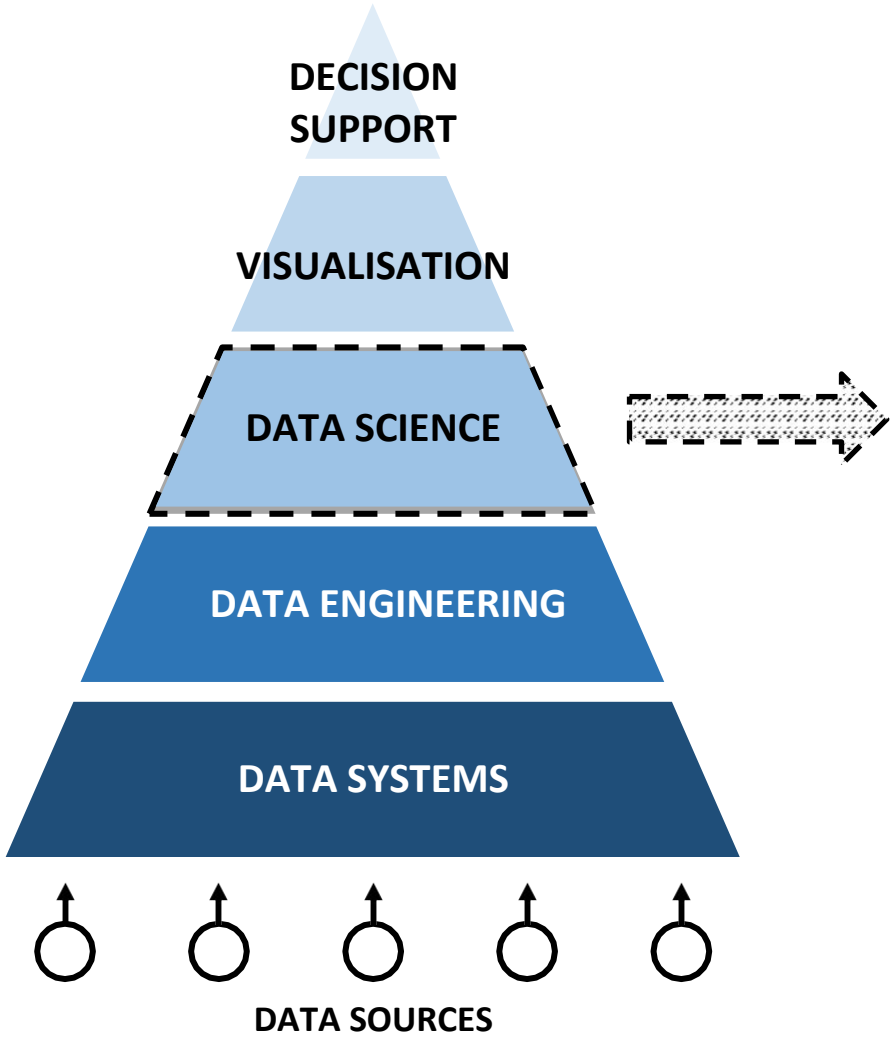
Analytics basic cycle – Questions?

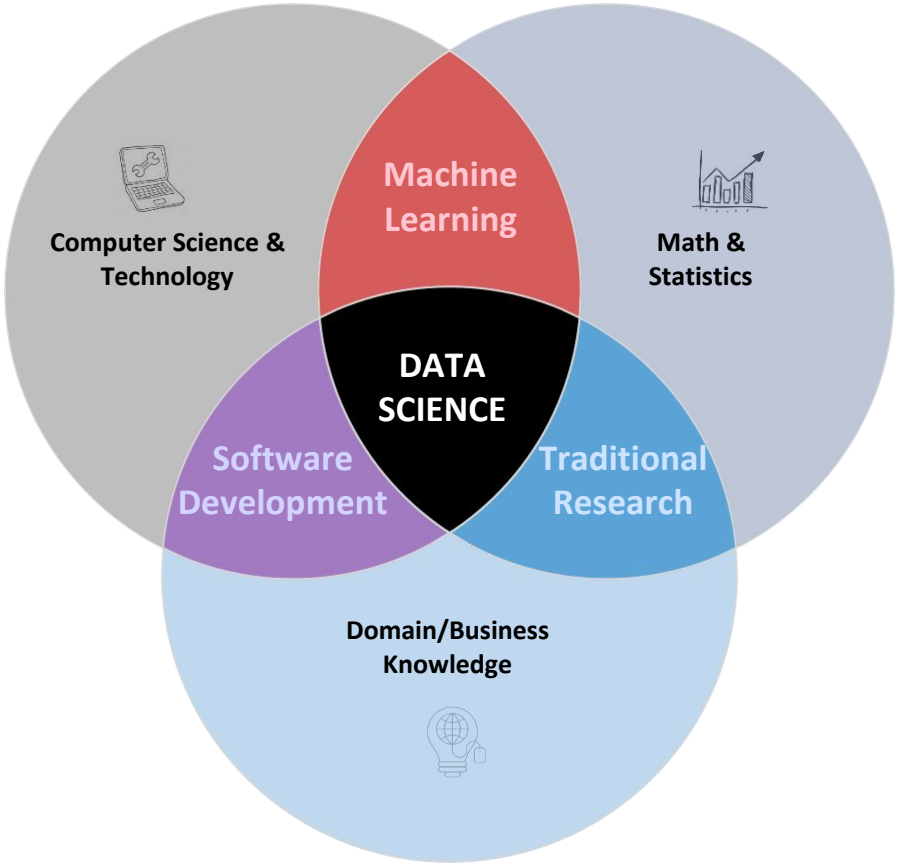


Analytics in an Organization – Questions?



Analytics vs. Data Science – Questions?





What is Data Science and what is it not?

Not about code, but the solution

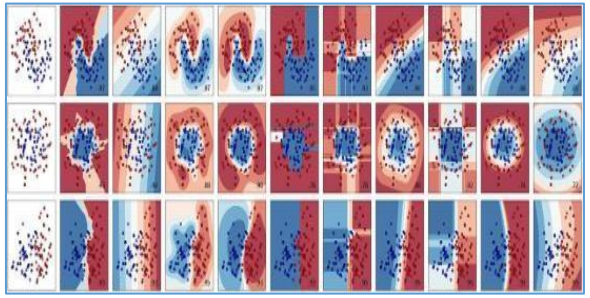
$$c = S_0\ N(d_1) - K\ e^{-rT} N(d_2)$$

$$p = K\ e^{-rT}\ N(-d_2) - S_0\ N(-d_1)$$

$$\text{where}\quad d_1 = \frac{\ln(S_0/K) + (r + \sigma^2/2)T}{\sigma\sqrt{T}}$$

$$d_2 = \frac{\ln(S_0/K) + (r - \sigma^2/2)T}{\sigma\sqrt{T}} = d_1 - \sigma\sqrt{T}$$

Not about just building a model, but about interpreting what the output means (insights)



Not about Accuracy, but about
"Fit-for-use" & stability

Not about Complex Algorithms, but about Impact

Not about train once, but about continuous learning & leveraging intelligence gained

More than accuracy, contextual delivery of insights & Help in decision making

Agenda

1. Welcome & Introductions
2. Overview of Analytics and Data Science
3. Getting help from Python
4. QnA

Introduction to Python help

There is a pretty exhaustive documentation for all python functions

- Pip install
- pdb – the debugger
- %%debugger is another option
- Use Help() or ? – Every function has built in documentation

- You will face many errors – IT IS OKAY !

Debugging is the process of removing errors from codes

PRINT things out a lot

Run code after each change

Read the error message

Google the error message

Ask for help

Keeping track of values in the data & structure of data is of great importance

PRINT things out a lot

- On every single line of code, you should have a sense of what the variable's values are. If you're not sure, print them out!
- Then, when you run your code, you can look at the console and see how the values might be changing in ways you're not expecting.
- Use functions like View(), class() to check if your data structures are in the format that you expect them to be.

Step by step is always better than making multiple changes in one go

Run code after each change

- Every time you run your code, you're getting feedback on your work.
- Track that - Is it getting closer to what you want, or is it going in wrong direction?

Error messages tell you what's wrong more often than not

Read the error message

- Getting errors in your code can be frustrating if you let them be
- It's really easy to throw your hands up and say "my code has an error" and feel lost
- But generally, about 2/3rds of error messages faced are fairly descriptive
- Maybe something was missing, or there was a typo, or perhaps you skipped a step and now it's not sure what you want it to do
- The error message does its best to tell you what went wrong
- At the very least, it will give you a great clue for places to start hunting for bugs

Google will generally take you the same errors solved by someone else

- If you can’t seem to figure out what your error message is trying to tell you, your best bet is to copy and paste the error message into Google.
- Chances are, you’ll get a few stackoverflow.com results, where people have asked similar questions and gotten explanations / answers.

Don’t remain stuck – ask for help

- Raise support queries – ‘Need Assistance’ on Olympus dashboard
- Ask in mentored learning sessions
- Ask your peers

Agenda

1. Welcome & Introductions
2. Overview of Analytics and Data Science
3. Getting help from Python
4. QnA

Questions

greatlearning

Learning for Life

Happy Learning