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Research & Innovation

LEARNING PATH TO DATA SCIENCE

Presented by: KANN Bonpagna

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Questions and Answers

I | ABOUT DATA SCIENCE

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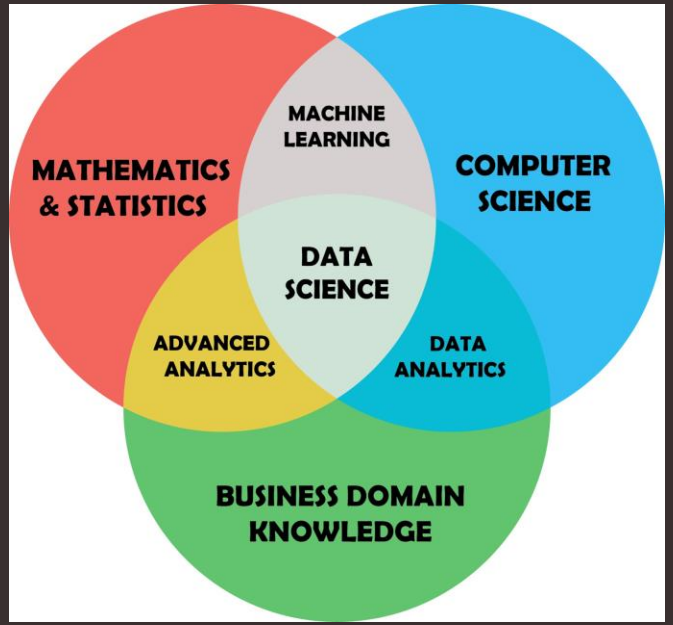

Source: Analytics Training Institute

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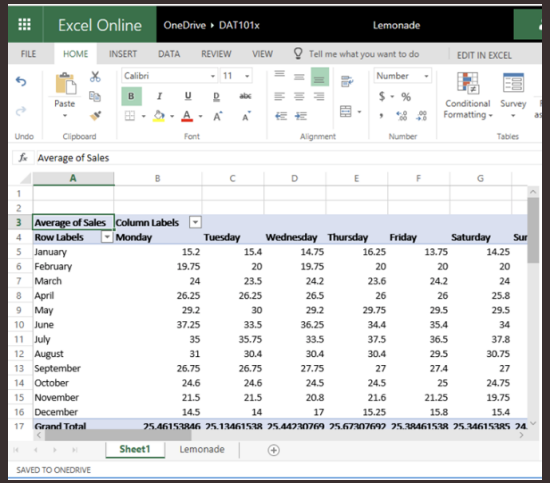

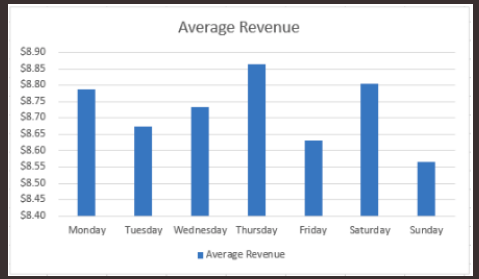

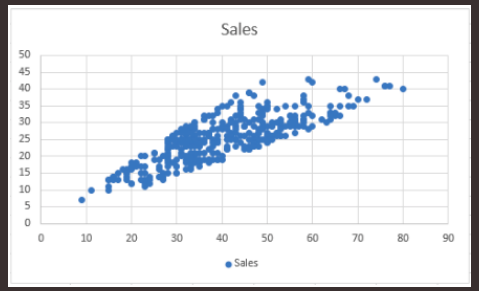

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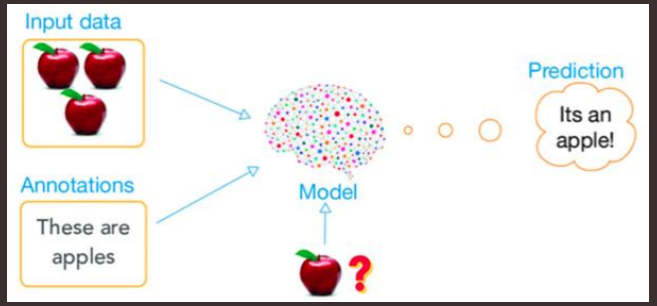
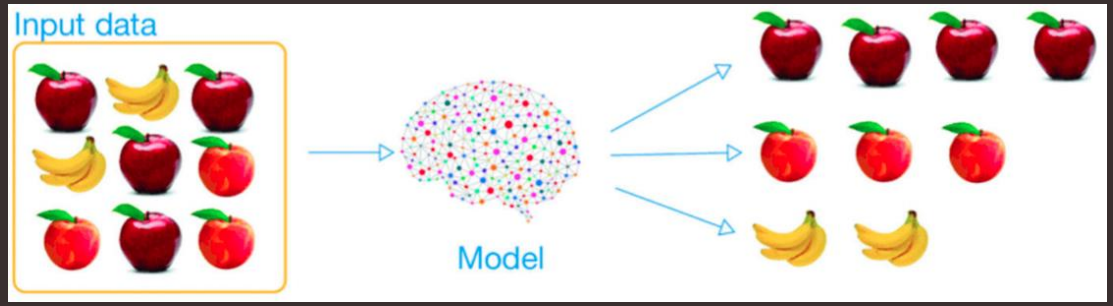
Supervised Learning



Unsupervised Learning



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Source: Edureka's Data Science Certification Training

II AVAILABLE JOBS

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Data Engineer

Perform tasks of data preparation like data cleaning and organizing. They build data pipeline & architecture, and perform data transformation including cleaning, structuring and formatting the data.

Business Analyst

formulate strategic plans for organizations, ensuring that the required information can be utilized and channelized properly. A Business Intelligence is adept in using BI tools to drive innovation in business by keeping track of and analyzing the market trends.

Data Science

Data Analyst

Managing large sets of data and scrutinizing information by using data analysis tools, curate reports of the analysis and presenting them to the management.

Data Scientist

Perform more technical tasks including data modeling. Data scientists are also responsible for handling huge amounts of data to extricate useful patterns and trends from the data, and build the model to solve the problems.

III LEARNING PATH

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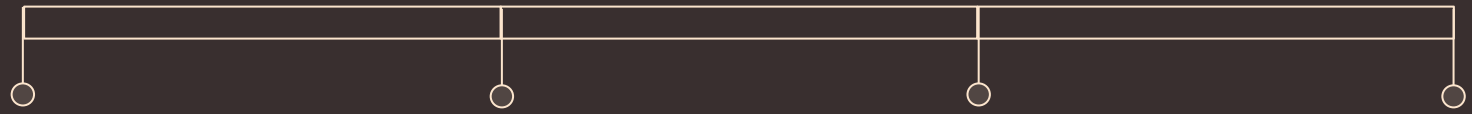

Year 1

Basic Data Analytics Tools

- Microsoft Excel
- Power BI, Tableau.,etc.

Basic Mathematics

- Probability & Statistics
- Linear Algebra

Year 2

Programming skills for Exploratory Data Analysis

Data Processing
- Python (Pandas, Numpy)
- SQL

Data Visualization
- Matplotlib
- Seaborn

Year 3

Machine Learning

- Supervised Learning *(Classification algorithms)*

- Unsupervised Learning *(Clustering algorithms)*

Project Work

- Kaggle
- Internship Projects

Year 4

Final Thesis Internship

- Research Centers
- Industries

Master Degree Application

- School Admission
- Available scholarships

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Tip #1 : Learn just Enough and Explore more through Practices!

- Start with basic theories and move to implementation!
- Learn how theories/algorithms works (Inputs & Outputs).
  (Do not focus too much on the formulas as it makes you feel complicated.)
- Observe how the code implementation reflects the theories/algorithms.

KNN works by finding the distances between a query and all the examples in the data, selecting the specified number examples (K) closest to the query, then votes for the most frequent label (in the case of classification) or averages the labels (in the case of regression).

Tip #2 : Do Projects

- Collect the datasets (All we need is a dataset to start the project!)
- Try to apply what you have learn into the dataset immediately!
- Record the accomplished projects and upload to repositories (Kaggle, GitHub., etc) for your portfolio in internship application!

Fun Fact:
Doing projects can help keep you motivated & entertaining, and explore the unexpected errors that occurs in real world. It gives you the ideas that learning never ends and there will always something new to take notes of!

Tip #3 : Iterate!

- Make it your habit! Things will only get better!
- Dive deeper into each lessons and find a more challenging questions!
- Learn to retrieve the dataset by yourself, scraping the data from websites/APIs.

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Final Tip #4 : Accountability !

- Setting a goal and telling yourself to do your best may not be enough to keep yourself consistent.

- Finding ways to make yourself a hero! You can feel how satisfied it is when you upload your project work into the submission box!

- Enrol in online courses and study consistently (1h/day for 5 days and 5h/day have different results!)

- Hanging out with friends with mutual interests. Create a habit of presenting your works using SLIDES and take turns within your circle/class! Treat it as a meeting so that you can have a party when it ends!

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Always remind yourself that you are responsible for your own life journey and never depend on or expect from anyone.

Remember no matter what happens,
Google will always be there for you, by your side!

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Online Course Resources:

EDX:

Python for Data Science: https://learning.edx.org/course/course-v1:UCSanDiegoX+DSE200x+2T2020/

Coursera:

Introduction to Data Science with Python:
https://www.coursera.org/learn/python-data-analysis

Data Analysis with Python:
https://www.coursera.org/learn/data-analysis-with-python/

Understanding and Visualizing Data with python: https://www.coursera.org/learn/understanding-visualization-data

Udemy:

Python Data Science Bootcamp with 5 Data Science Projects:
https://www.udemy.com/course/data-science-bootcamp-with-python/

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THANKS ~~YOU~~ /
THANK~~S~~ YOU
FOR YOUR ATTENTION!

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Q&A

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