Introduction to Tracks

Module 1 : Introduction to the Specialization Tracks

Introduction:-

Welcome to the session on '**Introduction to the Specialization Tracks'**. In this session, you will get a fair understanding of the data science and analytics landscape, the prominent roles present in the data industry, their skills, and the various responsibilities these roles perform in a data science team tasked with solving any business problem. Towards the end of the session, you will have a better understanding of the 5 specialization tracks that we have derived for you on the basis of industry trends and demand, and also after speaking to leading industry experts and academicians. These are Data Analytics/Business Intelligence, Business Analytics, Deep Learning, Natural Language Processing, and Data Engineering.

In this session

In this session you will get an understanding of the following:

- Overview of the data science and analytics landscape
- Prominent roles present in the data industry and their skills
- Deriving the 5 tracks based on the industry trends

Introduction to the Analytics Landscape:-

You might have come across various profiles in the data science industry and it might sound to you that all of them work with the same skills and responsibilities. But it is not so. Any data science setup is divided into responsibilities shouldered by various individuals. It is imperative that you understand how these diverse data science roles and functions differ from each other and how they come together to solve any business problem.

Before performing a deep dive into any analytics setup, it is important to keep in mind that the roles we discuss are loosely defined and can serve a different purpose for any organisation based on its needs.

Let us hear from the professor on what the analytics landscape is and the prominent roles present in the data science industry.

As mentioned by the professor, a complete data science setup consists of roles such as data engineers, business analysts, data scientists, and data analysts. These professionals come together to solve any business problem using a data-driven approach. Although it might seem that their skills and responsibilities look similar, that's rarely the case.

Now in the next segment, you will see in detail the various responsibilities that these data science roles perform in any organization.

Prominent Roles in the Data Industry:-

As we mentioned that a complete data science setup consists of data engineers, business analysts, data scientists, and data analysts. Let us understand the roles and responsibilities of each of these professionals.

The Professor mentions the following the four prominent job roles in the Data Industry:

Data Engineer
A data engineer is responsible for creating robust pipelines to make sure that the team of analysts and scientists get the right and relevant data to work on in any data analytics setup. A data engineer is the first line for any analytics project, making sure that the right data is extracted from the right sources using the right tools. Once the data is captured, the next step of the process is the analysis.

Business Analyst
A key player in the analysis process is the business analysts. These professionals traditionally looked after helping organisations building strategies based on the insights they develop from their current business, their experience so far and their gut feel. However, with the advent of new technologies and with the increase in data, organisations can now leverage their data and draw meaningful conclusions out of it to study their current business and also plan for their future.

Once they devise technical solutions and set up the evaluation metrics designed for the problem, it is also their task to explain all the insights drawn to the higher management. This is done with good visualisation and communication and data storytelling skills. They, of course, need to have a stronghold on some business processes as well.

Data Analyst
A data analyst is often asked to work on business problems involving data with complexity and therefore, it is imperative that they not only understand how to program the techniques well but also understand what techniques should be used in what kind of a business problem. They perform a rigorous analysis and interpret conclusions that not only help the organisation solve the business problem but also set some policies for them in the data-driven approaches they adopt in the near future.

Data Scientist
Like any other scientist, a data scientist has a fair few numbers of tools in her arsenal, which he/she uses based on the situation. For example, if the problem

is obvious enough, it can be solved using a simple visualisation, which will be made in a BI tool like tableau or even MS Excel to some extent. As the problem becomes more complex, the tools to be used to crack them become more sophisticated. They might range from the plain vanilla logistic regression to an ensemble of neural networks built to utilise data coming from an NLP functioning.

Additional Reading

The following links will help you understand more details about the structure of any general data science setup.
The structure of your Data Team
What Should be the Analytics Organization Structure?

Deriving the 5 Specialisation Tracks:-

As you have seen in the previous segment, we looked at the different roles present in the evolving data science space. We, at upGrad, after consulting with more than 300 leading industry experts and leading academicians in the space, have come to the conclusion that specialisation is the need of the hour. What it means is that to be a successful data science professional in either of the roles mentioned earlier, you need depth of knowledge and align your skill sets according to the specific responsibilities you shoulder.

Let us hear from the SME more about this and how we at upGrad have derived the right specialisation tracks in data science for you.

We understand that choosing the right profession in data science is not an easy task. After doing tremendous research and understanding the current industry trends, we have sorted out five specialisations that are the most sought-after professions in the industry.

Before the specialisation starts, you will have finished with the common curriculum. This will have provided you with the necessary skills to pursue a successful and rewarding career in the field of data science. Data science and analytics, as you'd know by now, is not a single monolith. It is like any other industry, the work of a team—a team with a diverse set of skills and experiences, which complement each other in the best way possible to accomplish the entire project.
Note: This module discusses the curriculum of three courses (course 3, course 4 and course 5) under each of the five specialisations. However, the learners enrolled in the **PG certification program** will have **only course 3** as part of their specialisation curriculum.
Now that you have gotten an overview of the various roles and specialisations in the data industry, you must be curious to understand the roles and skillsets on a deeper level. So, let us now take a deep dive and understand each

specialisation track in more detail from the next session.

Module 2 : Track Recommendation Engine

Track Recommendation Engine:-

In the previous sessions, you have seen the principles behind the various specialisations, the job roles they target a and the various skills and responsibilities the professionals shoulder. We understand that choosing the right profession in data science is not an easy task.

To aid you in choosing the right specialisation, we've designed a recommendation system that would tell you the different specialisations that would best suit you based on your background and work experience. Please note that the form below is not as comprehensive and you shouldn't go with it blindly, but instead treat it as a **recommendation** that would **aid** in making your decision. The final decision rests upon you to choose the best specialisation that best suits your interests and aligns with your career goals.

Please make sure to fill in the correct details and then click on the submit button.

NOTE: This is not the final track selection form but just a recommendation engine. The form for your final choice in track selection will be emailed to you separately.

Module 3 : FAQ's

FAQ related to Track selection:-

Please refer to the attached documents.