0:09

While the role of a Data Analyst varies depending on the type of organization and the extent to which it has adopted data-driven practices, there are some responsibilities that are typical to a Data Analyst role in today's organizations. These include: Acquiring data from primary and secondary data sources, Creating queries to extract required data from databases and other data collection systems, Filtering, cleaning, standardizing, and reorganizing data in preparation for data analysis, Using statistical tools to interpret data sets, Using statistical techniques to identify patterns and correlations in data, Analyzing patterns in complex data sets and interpreting trends, Preparing reports and charts that effectively communicate trends and patterns, Creating appropriate documentation to define and demonstrate the steps of the data analysis process. Corresponding to these responsibilities, let's look at some of the skills that are valuable for a Data Analyst. The data analysis process requires a combination of technical, functional, and soft skills. Let's first look at some of the technical skills that you need in your role as a Data Analyst. These include: Expertise in using spreadsheets such as Microsoft Excel or Google Sheets, Proficiency in statistical analysis and visualization tools and software such as IBM Cognos, IBM SPSS, Oracle Visual Analyzer, Microsoft Power BI, SAS, and Tableau Proficiency in at least one of the programming languages such as R, Python, and in some cases C++, Java, and MATLAB, Good knowledge of SQL, and ability to work with data in relational and NoSQL databases, The ability to access and extract data from data repositories such as data marts, data warehouses, data lakes, and data pipelines, Familiarity with Big Data processing tools such as Hadoop, Hive, and Spark. We will understand more about the features and use cases of some of these programming languages, databases, data repositories, and big data processing tools further along in the course. Now we'll look at some of the functional skills that you require for the role of Data Analyst. These include: Proficiency in Statistics to help you analyze your data, validate your analysis, and identify fallacies and logical errors. Analytical skills that help you research and interpret data, theorize, and make forecasts. Problem-solving skills, because ultimately, the end-goal of all data analysis is to solve problems. Probing skills that are essential for the discovery process, that is, for understanding a problem from the perspective of varied stakeholders and users—because the data analysis process really begins with a clear articulation of the problem statement and desired outcome. Data Visualization skills that help you decide on the techniques and tools that present your findings effectively based on your audience, type of data, context, and end-goal of your analysis. Project Management skills to manage the process, people, dependencies, and timelines of the initiative. That brings us to your soft skills as a Data Analyst. Data Analysis is both a science and an art. You can ace the technical and functional expertise, but one of the key differentiators for your success is going to be soft skills. This includes your ability to work collaboratively with business and cross-functional teams; communicate effectively to report and present your findings; tell a compelling and convincing story; and gather support and buy-in for your work. Above all, being curious, is at the heart of data analysis. In the course of your work, you will stumble upon patterns, phenomena, and anomalies that may show you a different path. The ability to allow new questions to surface and challenge your assumptions and hypotheses makes for a great analyst. You will also hear data analysis practitioners talk about intuition as a must-have quality. It's essential to note that intuition, in this context, is the ability to have a sense of the future based on pattern recognition and past experiences. In this video, we learned about the responsibilities and skillsets of a Data Analyst. In the next video, we will walk you through a day in the life of a Data Analyst.