Roles & Responsibilities of a Data Scientist

- **Management:** The Data Scientist plays an insignificant managerial role where he supports the construction of the base of futuristic and technical abilities within the Data and Analytics field in order to assist various planned and continuing data analytics projects.
- **Analytics:** The Data Scientist represents a scientific role where he plans, implements, and assesses high-level statistical models and strategies for application in the business's most complex issues. The Data Scientist develops econometric and statistical models for various problems including projections, classification, clustering, pattern analysis, sampling, simulations, and so forth.
- **Strategy/Design:** The Data Scientist performs a vital role in the advancement of innovative strategies to understand the business's consumer trends and management as well as ways to solve difficult business problems, for instance, the optimization of product fulfillment and entire profit.
- **Collaboration:** The role of the Data Scientist is not a solitary role and in this position, he collaborates with superior data scientists to communicate obstacles and findings to relevant stakeholders in an effort to enhance drive business performance and decision-making.
- **Knowledge:** The Data Scientist also takes leadership to explore different technologies and tools with the vision of creating innovative data-driven insights for the business at the most agile pace feasible. In this situation, the Data Scientist also uses initiative in assessing and utilizing new and enhanced data science methods for the business, which he delivers to senior management of approval.
- **Other Duties:** A Data Scientist also performs related tasks and tasks as assigned by the Senior Data Scientist, Head of Data Science, Chief Data Officer, or the Employer.

What does a Data Scientist do?

Data scientists are those who crack complex data problems with their strong expertise in certain scientific disciplines. They work with several elements related to mathematics, statistics, computer science, etc (though they may not be an expert in all these fields). They make a lot of use of the latest technologies in finding solutions and reaching conclusions that are crucial for an organization's growth and development. Data Scientists present the data in a much more useful form as compared to the raw data available to them from structured as well as unstructured forms.

Below is a table of differences between Data Science and Business Intelligence:

Factor	Data Science	Business Intelligence
Concept	It is a field that uses mathematics, statistics and various other tools to discover the hidden patterns in the data.	It is basically a set of technologies, applications and processes that are used by the enterprises for business data analysis.
Focus	It focuses on the future.	It focuses the past and present.
Data	It deals with both structured as well as unstructured data.	It mainly deals only with structured data.
Flexibility	Data science is much more flexible as data sources can be added as per requirement.	It is less flexible as in case of business intelligence data sources need to be pre-planned.
Method	It makes the use of scientific method.	It makes the use of analytic method.
Complexity	It has a higher complexity in comparison to business intelligence.	It is much simpler when compared to data science.
Expertise	It’s expertise is data scientist.	It’s expertise is business user.
Questions	It deals with the questions what will happen and what if.	It deals with the question what happened.
Tools	It’s tools are SAS, BigML, MATLAB, Excel etc.	It’s tools are InsightSquared Sales Analytics, Klipfolio, ThoughtSpot, Cyfe, TIBCO Spotfire etc.

Business Intelligence	Data Analysis
	Business Intelligence	Data Analysis
Objectives	Focuses on identifying historical trends; answers questions such as what happened during the last period and what trends are developing	Extracts information from datasets and creating forecasts; answers the question of what will happen or which is the most likely outcome
Skills requirements	Basic statistics and business knowledge, as well as data transformation and visualization skills	More technical skillset like coding, data mining, as well as more advanced statistics and domain knowledge
Data collection and management	Designed to manage well-organized data	Designed to manage a large volume of dynamic and less structured data
Complexity	More practical in daily business management; less costly and requires fewer resources	More complex in terms of capacity for forecasting, ability to manage dynamic data, and requirements for

Business Intelligence	Data Analysis	
		more advanced skills

Difference Between Data Scientist, Data Analyst, and Data Engineer

Data Scientist, Data Engineer, and Data Analyst are the three most common careers in data science. So let's understand who's data science by comparing it with its similar jobs.

Data Scientist	Data Analyst	Data Engineer
The focus will be on the futuristic display of data.	The main focus of a data analyst is on optimization of scenarios, for example how an employee can enhance the company's product growth.	Data Engineers focus on optimization techniques and the construction of data in a conventional manner. The purpose of a data engineer is continuously advancing data consumption.
Data scientists present both supervised and unsupervised learning of data, say regression and classification of data, Neural networks, etc.	Data formation and cleaning of raw data, interpreting and visualization of data to perform the analysis and to perform the technical summary of data.	Frequently data engineers operate at the back end. Optimized machine learning algorithms were used for keeping data and making data to be prepared most accurately.

Data Scientist	Data Analyst	Data Engineer
Skills required for Data Scientist are Python, R, SQL, Pig, SAS, Apache Hadoop, Java, Perl, Spark.		
	Skills required for Data Analyst are Python, R, SQL, SAS.	
		Skills required for Data Engineer are MapReduce, Hive, Pig Hadoop, techniques.

Data Scientist Data Analyst Data Engineer