**Defining Data Science**

1. **Overview**

* What is Data Science
* Fundamental of Data Science
* The Many Paths to Data Science
* The Sexiest Job in the 21st Century
* Advice for New Data Scientists
* Summary
* Lesson Glossary

1. **What is Data Science**

Data science is the field of exploring, manipulating, and analyzing data, and using data to answer questions or make recommendations.

1. **Fundamental of Data Science**

Data Science can help Organizations:

* Understand their environments.
* Analyze existing issues.
* Reveal previously hidden opportunities.

Data Scientists can use Data Analysis to add to the knowledge of the Organization by investigating data. Exploring the best way to use it to provide value to the business.

Process of Data Science Project:

* Have a Specific Problem => Clarify the question that the organization wants answered.
* Collect the data needed to solve the problem (What data do we need? And where will that data come from?)
* Analyze Structured and Unstructured Data from many sources in many different ways (use models) => To reveal patterns, archetypes, outliers, …
* The result of the project can either confirm what the organization suspect or provide completely new knowledge (affect future decisions).

“When the data has revealed its insights, the role of the Data Scientist becomes that of a Storyteller.”

Using data visualization tools => Understand the nature of the results => Recommend action to take.

1. **The Many Paths to Data Science**

As data science is not a discipline traditionally taught at universities, contemporary data scientists come from diverse backgrounds such as engineering, statistics, and physics.

1. **Data Science: The Sexiest Job in the 21st Century**

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1. **Advice for New Data Scientists**

* Be curious.
* Be extremely argumentative.
* Be judgmental.
* Be flexible with analytics platform/software.
* Be able to tell a story.

Starting point: to see what your competitive advantage is. Do you want to be a Data Scientist in any field, or a specific field? Learn specific set of skills for a specific field to solve specific problems.

Competitive advantage: not necessarily your analytical skills, it is your understanding of some aspect of life where you exceed beyond others.

1. **Summary**

Data Science: study of data to understand the world.

Data -> Stories -> Insights

* Clarify the problem
* Data collection
* Analysis
* Recognition
* Storytelling
* Visualization

Makings of a skilled data scientist:

* Versatility
* Subject area knowledge
* Experience programming and analyzing data
* Comfortable with math
* Curious
* Storyteller
* Diverse background
* Adept at selecting suitable tools
* Apply expertise to problem-solving

1. **Lesson Glossary**

[Link](https://author-ide.skills.network/render?token=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJtZF9pbnN0cnVjdGlvbnNfdXJsIjoiaHR0cHM6Ly9jZi1jb3Vyc2VzLWRhdGEuczMudXMuY2xvdWQtb2JqZWN0LXN0b3JhZ2UuYXBwZG9tYWluLmNsb3VkL0lCTVNraWxsc05ldHdvcmstRFMwMTAxRU4tQ291cnNlcmEvbGFicy8yMDA0NTcuMTE0X00xTDFfR2xvc3NhcnkubWQiLCJ0b29sX3R5cGUiOiJpbnN0cnVjdGlvbmFsLWxhYiIsImFkbWluIjpmYWxzZSwiaWF0IjoxNzExNTYyNjU1fQ.SiD0IqDFnibRDRqHN-_wlhZEushiVsLXy997EExOY0o)