

Glossary

Module 1 Lesson 1: From Problem to Approach



Welcome! This alphabetized glossary contains many of the terms you'll find within this lesson. These terms are important for you to recognize when working in the industry, when participating in user groups, and when participating in other certificate programs.

Term	Definition
Analytic Approach	The process of selecting the appropriate method or path to address a specific data science question or problem.
Analytics	The systematic analysis of data using statistical, mathematical, and computational techniques to uncover insights, patterns, and trends.
Business Understanding	The initial phase of data science methodology involves seeking clarification and understanding the goals, objectives, and requirements of a given task or problem.
Clustering Association	An approach used to learn about human behavior and identify patterns and associations in data.
Cohort	A group of individuals who share a common characteristic or experience is studied or analyzed as a unit.
Cohort study	An observational study where a group of individuals with a specific characteristic or exposure is followed over time to determine the incidence of outcomes or the relationship between exposures and outcomes.
Congestive Heart Failure (CHF)	A chronic condition in which the heart cannot pump enough blood to meet the body's needs, resulting in fluid buildup and symptoms such as shortness of breath and fatigue.
CRISP-DM	Cross-Industry Standard Process for Data Mining is a widely used methodology for data mining and analytics projects encompassing six phases: business understanding, data understanding, data preparation, modeling, evaluation, and deployment.
Data analysis	The process of inspecting, cleaning, transforming, and modeling data to discover useful information, draw conclusions, and support decision-making.
Data cleansing	The process of identifying and correcting or removing errors, inconsistencies, or inaccuracies in a dataset to improve its quality and reliability
Data science	An interdisciplinary field that combines scientific methods, processes, algorithms, and systems to extract knowledge and insights from structured and unstructured data.
Data science methodology	A structured approach to solving business problems using data analysis and data-driven insights.
Data scientist	A professional using scientific methods, algorithms, and tools to analyze data, extract insights, and develop models or solutions to complex business problems.
Data scientists	Professionals with data science and analytics expertise who apply their skills to solve business problems.
Data-Driven Insights	Insights derived from analyzing and interpreting data to inform decision-making
Decision tree	A supervised machine learning algorithm that uses a tree-like structure of decisions and their possible consequences to make predictions or classify instances.

Term	Definition
Decision Tree Classification Model	A model that uses a tree-like structure to classify data based on conditions and thresholds provides predicted outcomes and associated probabilities.
Decision Tree Classifier	A classification model that uses a decision tree to determine outcomes based on specific conditions and thresholds.
Decision-Tree Model	A model used to review scenarios and identify relationships in data, such as the reasons for patient readmissions
Descriptive approach	An approach used to show relationships and identify clusters of similar activities based on events and preferences
Descriptive modeling	Modeling technique that focuses on describing and summarizing data, often through statistical analysis and visualization, without making predictions or inferences
Domain knowledge	Expertise and understanding of a specific subject area or field, including its concepts, principles, and relevant data
Goals and objectives	The sought-after outcomes and specific objectives that support the overall goal of the task or problem.
Iteration	A single cycle or repetition of a process often involves refining or modifying a solution based on feedback or new information.
Iterative process	A process that involves repeating a series of steps or actions to refine and improve a solution or analysis. Each iteration builds upon the previous one.
Leaf	The final nodes of a decision tree where data is categorized into specific outcomes.
Machine Learning	A field of study that enables computers to learn from data without being explicitly programmed, identifying hidden relationships and trends.
Mean	The average value of a set of numbers is calculated by summing all the values and dividing by the total number of values.
Median	When arranged in ascending or descending order, the middle value in a set of numbers divides the data into two equal halves.
Model (Conceptual model)	A simplified representation or abstraction of a real-world system or phenomenon used to understand, analyze, or predict its behavior.
Model building	The process of developing predictive models to gain insights and make informed decisions based on data analysis.
Pairwise comparison (correlation)	A statistical technique that measures the strength and direction of the linear relationship between two variables by calculating a correlation coefficient.
Pattern	A recurring or noticeable arrangement or sequence in data can provide insights or be used for prediction or classification.
Predictive model	A model used to determine probabilities of an action or outcome based on historical data.
Predictors	Variables or features in a model that are used to predict or explain the outcome variable or target variable.
Prioritization	The process of organizing objectives and tasks based on their importance and impact on the overall goal.
Problem solving	The process of addressing challenges and finding solutions to achieve desired outcomes.
Stakeholders	Individuals or groups with a vested interest in the data science model's outcome and its practical application, such as solution owners, marketing, application developers, and IT administration.
Standard deviation	A measure of the dispersion or variability of a set of values from their mean; It provides information about the spread or distribution of the data.
Statistical analysis	Stand deviations are applied to problems that require counts, such as yes/no answers or classification tasks.

Term	Definition
Statistics	The collection, analysis, interpretation, presentation, and organization of data to understand patterns, relationships, and variability in the data.
Structured data (data model)	Data organized and formatted according to a predefined schema or model and is typically stored in databases or spreadsheets.
Text analysis data mining	The process of extracting useful information or knowledge from unstructured textual data through techniques such as natural language processing, text mining, and sentiment analysis.
Threshold value	The specific value used to split data into groups or categories in a decision tree.

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Changelog

Date	Version	Changed by	Change Description
2023-08-03	0.1	Patsy Kravitz	Initial version created

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