Key Word or Phrase:

Data science

Definition:

An interdisciplinary field involving the design and use of techniques to process very large amounts of data from a variety of sources and to provide knowledge based on the data.

Key Word or Phrase:

Big data

Definition:

Sets of data that are too large to be gathered and analyzed by traditional methods.

Key Word or Phrase:

Data-driven decision making

Definition:

An organizational process to gather and analyze relevant and verifiable data and then evaluate the results to guide business strategies.

Key Word or Phrase:

Predictive modeling

Definition:

A process in which historical data based on behaviors and events is blended with multiple variables and used to construct models of anticipated future outcomes.

Key Word or Phrase:

Telematics

Definition:

The use of technological devices in vehicles with wireless communication and GPS tracking that transmit data to businesses or government agencies; some return information for the driver.

Key Word or Phrase:

Text mining

Definition:

Obtaining information through language recognition.

Key Word or Phrase:

Data mining

Definition:

The analysis of large amounts of data to find new relationships and patterns that will assist in developing business solutions.

Key Word or Phrase:

Actuary

Definition:

A person who uses mathematical methods to analyze insurance data for various purposes, such as to develop insurance rates or set claim reserves.

Key Word or Phrase:

Domain knowledge

Definition:

Information related to the context of the information a data scientist is working with.

Key Word or Phrase:

Structured data

Definition:

Data organized into databases with defined fields, including links between databases.

Key Word or Phrase:

Unstructured data

Definition:

Data that is not organized into predetermined formats, such as databases, and often consists of text, images, or other nontraditional media.

Key Word or Phrase:

Premium

Definition:

The price of the insurance coverage provided for a specified period.

Key Word or Phrase:

Loss adjustment expense (LAE)

Definition:

The expense that an insurer incurs to investigate, defend, and settle claims according to the terms specified in the insurance policy.

Key Word or Phrase:

Allocated loss adjustment expense (ALAE)

Definition:

The expense an insurer incurs to investigate, defend, and settle claims that are associated with a specific claim.

Key Word or Phrase:

Unallocated loss adjustment expense (ULAE)

Definition:

Loss adjustment expense that cannot be readily associated with a specific claim.

Key Word or Phrase:

Salvage

Definition:

The process by which an insurer takes possession of damaged property for which it has paid a total loss and recovers a portion of the loss payment by selling the damaged property.

Key Word or Phrase:

Subrogation

Definition:

The process by which an insurer can, after it has paid a loss under the policy, recover the amount paid from any party (other than the insured) who caused the loss or is otherwise legally liable for the loss.

Key Word or Phrase:

Text mining

Definition:

The analysis of text for classification and prediction.

Key Word or Phrase:

Point of sale

Definition:

A seamless transaction, documentation, and payment at the time and place of a sale.

Key Word or Phrase:

Classification tree

Definition:

A supervised learning technique that uses a structure similar to a tree to segment data according to known attributes to determine the value of a categorical target variable.

Key Word or Phrase:

Regression analysis

Definition:

A statistical technique that is used to estimate relationships between variables.

Key Word or Phrase:

Cluster analysis

Definition:

A model that determines previously unknown groupings of data.

Key Word or Phrase:

Node

Definition:

A representation of a data attribute.

Key Word or Phrase:

Arrow

Definition:

A pathway in a classification tree.

Key Word or Phrase:

Leaf node

Definition:

A terminal node of a classification tree that is used to classify an instance based on its attributes.

Key Word or Phrase:

Target variable

Definition:

The predefined attribute whose value is being predicted in a data analytical model.

Key Word or Phrase:

Linear regression

Definition:

A statistical method to predict the numerical value of a target variable based on the values of explanatory variables.

Key Word or Phrase:

Generalized linear model (GLM)

Definition:

A statistical technique that increases the flexibility of a linear model by linking it with a nonlinear function.

Key Word or Phrase:

Supervised learning

Definition:

A type of model creation, derived from the field of machine learning, in which the target variable is defined.

Key Word or Phrase:

Unsupervised learning

Definition:

A type of model creation, derived from the field of machine learning, that does not have a defined target variable.

Key Word or Phrase:

Predictive model

Definition:

A model used to predict an unknown outcome by means of a defined target variable.

Key Word or Phrase:

Descriptive model

Definition:

A model used to study and find relationships within data.

Key Word or Phrase:

Attribute

Definition:

A variable that describes a characteristic of an instance within a model.

Key Word or Phrase:

Instance (example)

Definition:

The representation of a data point described by a set of attributes within a model's dataset.

Key Word or Phrase:

Algorithm

Definition:

An operational sequence used to solve mathematical problems and to create computer programs.

Key Word or Phrase:

Information gain

Definition:

A measure of the predictive power of one or more attributes.

Key Word or Phrase:

Entropy

Definition:

A measure of disorder in a dataset.

Key Word or Phrase:

Lift

Definition:

In model performance evaluation, the percentage of positive predictions made by the model divided by the percentage of positive predictions that would be made in the absence of the model.

Key Word or Phrase:

Leverage

Definition:

In model performance evaluation, the percentage of positive predictions made by the model minus the percentage of positive predictions that would be made in the absence of the model.

Key Word or Phrase:

Nearest neighbor

Definition:

The most similar instance in a data model.

Key Word or Phrase:

k nearest neighbor (k-NN)

Definition:

An algorithm in which “k” equals the number of nearest neighbors plotted on a graph.

Key Word or Phrase:

Class label

Definition:

The value of the target variable in a model.

Key Word or Phrase:

Link prediction

Definition:

A prediction of the connection between data items.

Key Word or Phrase:

Training data

Definition:

Data that is used to train a predictive model and that therefore must have known values for the target variable of the model.

Key Word or Phrase:

Overfitting

Definition:

The process of fitting a model too closely to the training data for the model to be effective on other data.

Key Word or Phrase:

Holdout data

Definition:

In the model training process, existing data with a known target variable that is not used as part of the training data.

Key Word or Phrase:

Generalization

Definition:

The ability of a model to apply itself to data outside the training data.

Key Word or Phrase:

Accuracy

Definition:

In model performance evaluation, a model's correct predictions divided by its total predictions.

Key Word or Phrase:

Precision

Definition:

In model performance evaluation, a model's correct positive predictions divided by its total positive predictions.

Key Word or Phrase:

Recall

Definition:

In model performance evaluation, a model's correct positive predictions divided by the sum of its correct positive predictions and incorrect negative predictions.

Key Word or Phrase:

F-score

Definition:

In statistics, the measure that combines precision and recall and is the harmonic mean of precision and recall.

Key Word or Phrase:

Confusion matrix

Definition:

A matrix that shows the predicted and actual results of a model.

Key Word or Phrase:

K-means

Definition:

An algorithm in which “k” indicates the number of clusters and “means” represents the clusters’ centroids.

Key Word or Phrase:

Centroid

Definition:

The center of a cluster.

Key Word or Phrase:

Adverse development

Definition:

Increasing claims costs for which the reserves are inadequate.

Key Word or Phrase:

Long-tail claim

Definition:

A claim in which there is a duration of more than one year from the date of loss to closure.

Key Word or Phrase:

Complex claim

Definition:

A claim that contains one or more characteristics that cause it to cost more than the average claim.

Key Word or Phrase:

Machine learning

Definition:

Artificial intelligence in which computers continually teach themselves to make better decisions based on previous results and new data.

Key Word or Phrase:

Recursively

Definition:

Successively applying a model.

Key Word or Phrase:

Data mining

Definition:

The process of extracting hidden patterns from data that is used in a wide range of applications for research and fraud detection.

Key Word or Phrase:

Telematics

Definition:

The use of technological devices to transmit data via wireless communication and GPS tracking.

Key Word or Phrase:

Internet of Things (IoT)

Definition:

A network of objects that transmit data to and from each other without human interaction.

Key Word or Phrase:

Affinity marketing

Definition:

A type of group marketing that targets various groups based on profession, association, interests, hobbies, and attitudes.

Key Word or Phrase:

Usage-based insurance

Definition:

A type of auto insurance in which the premium is based on the policyholder's driving behavior.

Key Word or Phrase:

Business intelligence (BI)

Definition:

The skills, technologies, applications, and practices used to improve decision-making insights and reinforce information integrity.

Key Word or Phrase:

Internet of Things (IoT)

Definition:

A network of objects that transmit data to computers.

Key Word or Phrase:

Underwriting

Definition:

The process of selecting insureds, pricing coverage, determining insurance policy terms and conditions, and then monitoring the underwriting decisions made.

Key Word or Phrase:

Smart product

Definition:

An innovative item that uses sensors; wireless sensor networks; and data collection, transmission, and analysis to further enable the item to be faster, more useful, or otherwise improved.

Key Word or Phrase:

Wireless sensor network (WSN)

Definition:

A wireless network consisting of individual sensors placed at various locations to exchange data.

Key Word or Phrase:

Radio frequency identification (RFID)

Definition:

A technology that uses radio frequency to identify objects.

Key Word or Phrase:

Radio frequency identification (RFID) tag

Definition:

A transponder that communicates with an antenna and transceiver (together called the reader) using radio frequency identification.

Key Word or Phrase:

Lidar

Definition:

A sensor similar to radar that uses infrared light to detect nearby objects.

Key Word or Phrase:

Smart transportation

Definition:

The integration of strategic vehicle management solutions with innovative technologies.

Key Word or Phrase:

Transducer

Definition:

A device that converts one form of energy into another.

Key Word or Phrase:

Actuator

Definition:

A mechanical device that turns energy into motion or otherwise effectuates a change in position or rotation using a signal and an energy source.

Key Word or Phrase:

Accelerometer

Definition:

A device that measures acceleration, motion, and tilt.

Key Word or Phrase:

Artificial intelligence (AI)

Definition:

Computer processing or output that simulates human reasoning or knowledge.

Key Word or Phrase:

Chatbot

Definition:

Software that uses artificial intelligence to engage in dialogue with a human and provide simple responses.

Key Word or Phrase:

Conversational AI

Definition:

Software that uses artificial intelligence to hold a natural language conversation with a human through a messaging application, text, or website, or over the phone.

Key Word or Phrase:

Deep learning

Definition:

Insights into data use and processing gained by combining artificial intelligence and machine learning. It is based on algorithms derived from artificial neural networks.

Key Word or Phrase:

Neural network

Definition:

A data analysis technique composed of three layers, including an input layer, a hidden layer with nonlinear functions, and an output layer, that is used for complex problems.

Key Word or Phrase:

Firmware

Definition:

Software providing basic control for a device's hardware.

Key Word or Phrase:

Energy transfer theory

Definition:

An approach to accident causation that views accidents as energy that is released and that affects objects, including living things, in amounts or at rates that the objects cannot tolerate.

Key Word or Phrase:

Job safety analysis (JSA)

Definition:

An analysis that dissects a repetitive task, whether performed by a person or machine, to determine potential hazards if each action is not performed.

Key Word or Phrase:

Causal factors

Definition:

The agents that directly result in one event causing another.

Key Word or Phrase:

Probability analysis

Definition:

A technique for forecasting events, such as accidental and business losses, on the assumption that they are governed by an unchanging probability distribution.

Key Word or Phrase:

Probability distribution

Definition:

A presentation (table, chart, or graph) of probability estimates of a particular set of circumstances and of the probability of each possible outcome.

Key Word or Phrase:

Theoretical probability

Definition:

Probability that is based on theoretical principles rather than on actual experience.

Key Word or Phrase:

Empirical probability (a posteriori probability)

Definition:

A probability measure that is based on actual experience through historical data or from the observation of facts.

Key Word or Phrase:

Law of large numbers

Definition:

A mathematical principle stating that as the number of similar but independent exposure units increases, the relative accuracy of predictions about future outcomes (losses) also increases.

Key Word or Phrase:

Unfair discrimination

Definition:

Applying different standards or methods of treatment to insureds who have the same basic characteristics and loss potential, such as charging higher-than-normal rates for an auto insurance applicant based solely on the applicant's race, religion, or ethnic background.