

Ch.4: decision support and artificial intelligence



Agent-based modelingway of simulating human organizations using multiple intelligent agents, each of which follows a set of simple rules and can adapt to changing conditions. Analytics (predictive analytics)uses a variety of decision tools and techniques-- such as neural networks, data mining, decision trees, and Bayesian networks-- to analyze current and historical data and make predictions about the likelihood of the occurrence of future events. Artificial intelligence(AI)the science of making machines imitate human thinking and behaviorBiomimicrylearning from ecosystems and adapting their characteristics to human and organizational situationsBuyer agent (shopping bot)an intelligent agent on a Web site that helps you, the customer, find the products and services you want. Choicethe third step in the decision-making process where you decide on a plan to address the problem or opportunity. Crossoverthe process within a genetic algorithm where portions of good outcomes are combined in the hope of creating an even better outcome. Data managementcomponent of a DSS that performs the function of storing and maintaining the information that you want your DSS to use. data-mining agentan intelligent agent that operates in a data warehouse discovering information. decision support system (DSS)a highly flexible and interactive IT system that is designed to support decision making when the problem is not structured. Designthe second step in the decision making process, where you consider possible ways of solving the problem, filling the need, or taking advantage of the opportunity. Expert system (knowledge-based system)an artificial intelligence system that applies reasoning capabilities to each a conclusion. Fuzzy logicmathematical method of handling imprecise or subjective information. Genetic algorithman artificial intelligence system that mimics the evolutionary, survival-of-the-

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fittest process to generate increasingly better solutions to a problem.

Geographic information system (GIS) a decision support system designed specifically to analyze spatial information. Implementation the final step in the decision-making process where you put your plan into action.

Information agent intelligent agent that searches for information of some kind and brings it back. intelligence the first step in the decision-making process where you find or recognize a problem, need or opportunity (also called the diagnostic phase of decision making) intelligent agent software that assists you, or acts on your behalf, in performing repetitive computer-related tasks.

location mashup a geographic information system (GIS) that displays a particular geographic area and then overlays content according to the user's desires. Mashup a combination of content from more than one source. Model management component of a DSS that consists of both the DSS models and the DSS model management system. Monitoring-and-surveillance agent

(predictive agent) intelligent agent that constantly observes and reports on some entity of interest, that could, for example, be a network or

manufacturing equipment. Multi-agent system system in which groups of intelligent agents have the ability to work independently and interact with each other. Mutation the process within a genetic algorithm of randomly trying combinations and evaluating the success (or failure) of the outcomes.

Neural network (artificial neural network, ANN) an artificial intelligence system that is capable of finding and differentiating patterns. Nonrecurring (ad hoc) decision one that you make infrequently (perhaps only once) and you may even have different criteria for determining the best solution each

time. Nonstructured decision a decision for which there may be several "right" answers and there is no precise way to get a right answer. Predictive

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analytics uses a variety of decision tools and techniques-- such as neural networks, data-mining, decision trees, and Bayesian networks-- to analyze current and historical data and make predictions about the likelihood of the occurrence of future events. recurring decision a decision that you have to make repeatedly and often periodically, whether weekly, monthly, quarterly, or yearly. satisficing the process of making a choice that meets your needs and is satisfactory, without necessarily being the best possible choice available selection the process within a genetic algorithm that gives preference to better outcomes. structured decision a decision where processing a certain kind of information in a specified way will always get you the right answer... Swarm (collective) intelligence collective behavior of groups of simple agents that are capable of devising solutions to problems as they arise, eventually leading to coherent global patterns. user agent (personal agent) an intelligent agent that takes action on your behalf... User interface management component of a DSS that allows you to communicate with the DSS. ONCH. 4: DECISION SUPPORT AND ARTIFICIAL INTELLIGENCE SPECIFICALLY FOR YOU FOR ONLY \$13.90/PAGE Order Now Tags:

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