Artificial Intelligence and Machine Learning

University Computer Science · Vocabulary in context

Word	Example
artificial intelligence and machine learning	**Artificial intelligence and machine learning** let computers learn from data.
search tree	A **search tree** shows all the moves from a starting state.
uninformed	**Uninformed** search has no idea how close it is to the goal.
breadth-first /bredθ fɜːst/	**Breadth-first** search checks all nodes at one level before going deeper.
depth-first /depθ fɜːst/	**Depth-first** search follows one path as far as it can.
informed	**Informed** search uses a guess of how far the goal is.
heuristic /hjuːˈrɪstɪk/	A **heuristic** is a quick guess of the distance to the goal.
symbolic reasoning	**Symbolic reasoning** uses rules to reach conclusions.
propositional logic	**Propositional logic** uses true/false statements joined by AND, OR and NOT. AND、OR　NOT
inference /ˈɪnfərəns/	**Inference** uses rules to reach new conclusions.
forward chaining	**Forward chaining** starts from known facts and applies rules.

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← **backward chaining**	**Backward chaining** starts from the goal and looks for facts that support it.
Bayesian network	A **Bayesian network** shows how events affect each other's probabilities.
linear regression /ˈlɪnɪə rɪˈgreʃn/	**Linear regression** fits a straight line to the data.
logistic regression	**Logistic regression** turns a score into a probability between 0 and 1. 0 1
decision boundary	The **decision boundary** separates the two predicted groups.
↘ **gradient descent** /ˈgreɪdɪənt dɪˈsent/	**Gradient descent** takes small steps downhill to reduce the error.
learning rate /ˈlɜːnɪŋ reɪt/	A small **learning rate** means small steps.
loss surface	Training moves downhill on the **loss surface**.
confusion matrix	A **confusion matrix** counts correct and wrong predictions for each class.
accuracy /ˈækjʊrəsi/	**Accuracy** is the share of all predictions that are correct.
precision /prɪˈsɪʒn/	**Precision** asks: of the items we called positive, how many really were?
recall /ˈriːkɔːl/	**Recall** asks: of the real positives, how many did we find?
error disparity	**Error disparity** means the model makes more mistakes for one group than another.

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☆ **A***	**A-star** search adds the cost so far to a guess of the cost still to go. A-star

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