OSLOMET

KANDIDAT

411

PRØVE

DAVE3625 1 Introduksjon til Kunstig Intelligens

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Exam information

Oppgave	Oppgavetype
i	Informasjon eller ressurser

Seksjon 1

Oppgave	Oppgavetype
1	Flervalg
2	Flervalg
3	Flervalg
4	Flervalg
5	Flervalg
6	Flervalg
7	Flervalg
8	Flervalg
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41	Flervalg
42	Flervalg
43	Flervalg

1 Suppose you have created a machine learning model which detects cat species. You tested the model in your development and test environemnt and it worked fine. You launched the code in production but there, some users are using the model to test kitten images. The model fails on kitten images. What can you do to fix it ?

Velg ett alternativ:

○ Choose production as the only distribution and dont work with test or dev

○ Choose dev and test from the same distribution

◉ Choose dev and test sets from the same distribution as production distribution

2 What is TRUE for a machine learning algorithm ?
Velg ett alternativ:

◉ It is harder to train the remaining last 10% than the first 90%

○ None of the above.

○ It is harder to train the first 90% than the remaining 10%

3   Which of the following is a common use of unsupervised learning?

Velg ett alternativ:

○ Detect outliers

○ Evaluate the likely performance of a supervised learning model

◉ Determine if meaningful relationships can be found in a dataset

○ Determine a base set of inoput attributes for supervised learning

4   The type of machine learning which enables an agent to learn on its own through trial and error is called:

Velg ett alternativ:

○ Unsupervised learning

○ Recommender systems

◉ Reinforcement learning

○ Supervised learning

5   What type of A.I is a recommendation system? (e.g used by Facebook, Amazon, Netflix etc)
Velg ett alternativ:

○ Super A.I.

○ General A.I.

◉ Narrow A.I.

6 Suppose you are given a data set of customer complaints in Norwegian. The data set is labelled. You are now given a task to understand how angry or happy the customers are in those complaints. What kind of algortihms would you use ?

Velg ett alternativ:

- ● Classification

- ○ Clustering

- ○ Regression

7 What is the maximum number of hyperplanes one can use

Velg ett alternativ:

- ○ 10 dimensional

- ○ 3 dimensional

- ○ 2 dimensional

- ● n dimensional

8 which statement is true about outliers ?

Velg ett alternativ:

- ○ Outliers should be part of the training data set but should not be present in the test data

- ○ Outliers should be identified and removed from the data set

- ● The nature of the problem determines how outliers are used

- ○ Outliers should be part of the test data set but should not be present in the training data
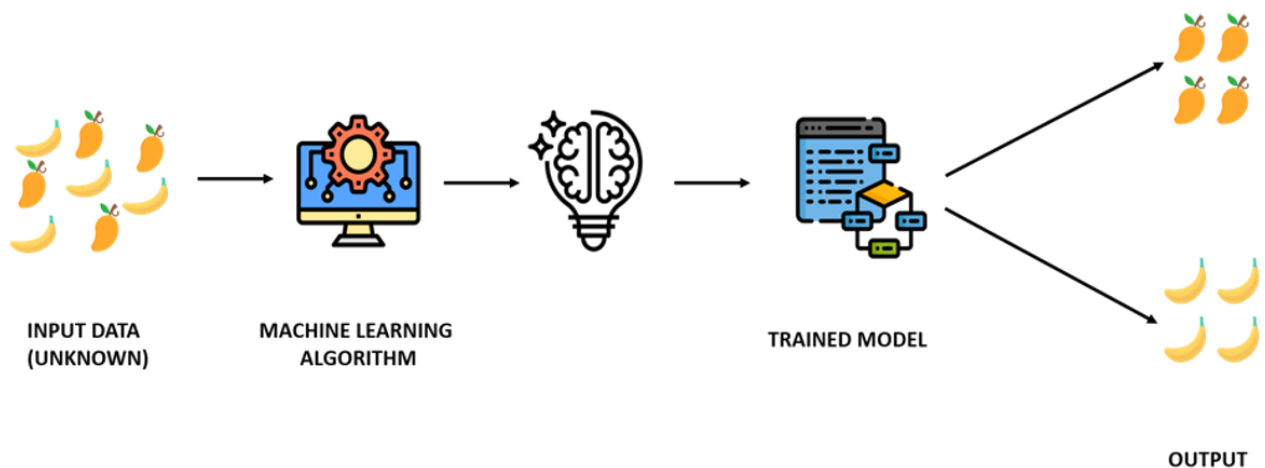
9   Choose the correct option:

Velg ett alternativ:

○ Clustering -> unknown data set

○ Regression -> discrete data sets

○ Classification -> continuous data

○ Decision Tree -> Only discrete data

10   Which type of machine learning is shown in this image ?
Velg ett alternativ:

○ Recomender systems

○ Reinforcement learning

○ Supervised learning

◉ Unsupervised learning

INPUT DATA   MACHINE LEARNING   TRAINED MODEL
(UNKNOWN)   ALGORITHM

OUTPUT

11   What is NOT valid for a hyperplane ?

Velg ett alternativ:

○ They are boundaries that help classify data points

○ Hyperplanes work with support vector machines

◉ We can only use maximum 2 hyperplanes for any number of features

12   Suppose you are given a data set of X ray images of covid patients. The data set is not labelled and you dont have the opportunity to label it. You are now given the task to identify if the patient has covid or not. What kind of algortihm would you use ?

Velg ett alternativ:

○ Classification

◉ Clustering

○ Regression

13   You have a data set for 1 million entries. For practical reasons, you do not have the time to label this data set. You need to find relationships between the data. What kind of technique will you use?
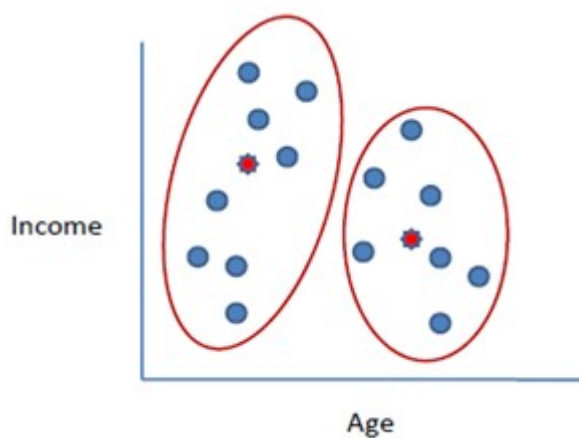
Velg ett alternativ:

○ Clustering

○ Classification

◉ Association

○ Supervised algorithms

14 Chatbots and Voice assistants (Siri, Alexa, Google assistant) are examples of:
Velg ett alternativ:

○ Super AI

◉ Narrow AI

○ General AI
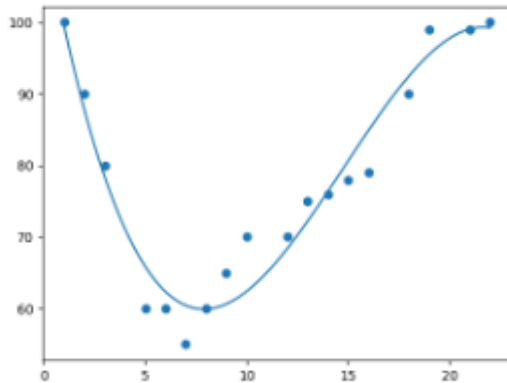
15 What kind of algorithm is the following:

Velg ett alternativ:

○ Apriopi algorithm

○ K-Means algorithm

◉ Mean shift clustering algorithm

16   The following image is an example of
Velg ett alternativ:

   ◉ Polynomial regression

   ○ Linear regression

17   You want to improve sales of your online store. You realize that people who buy books also buy pencils. This is just a theory but you want to test it out. What kind of algorithms can you use to try this out?

Velg ett alternativ:

   ○ Supervised algorithms

   ◉ Association algorithms

   ○ Clustering algorithms

18   Is it normal to use the 70% train and 30% test data ratio when data set is big ?
Velg ett alternativ:

   ◉ Yes

   ○ No

19 A data point which differs significantly from other observed data points is called
Velg ett alternativ:

○ Labelled data

◉ Outlier

○ Synthetic data

20 Where do we primarily use data labeling ?
Velg ett alternativ:

○ Reinforcement learning

◉ Supervised learning

○ Unsupervised learning

21 While creating an A.I algorithm, you need some data which does not exist. Which method will you use to obtain this data ?
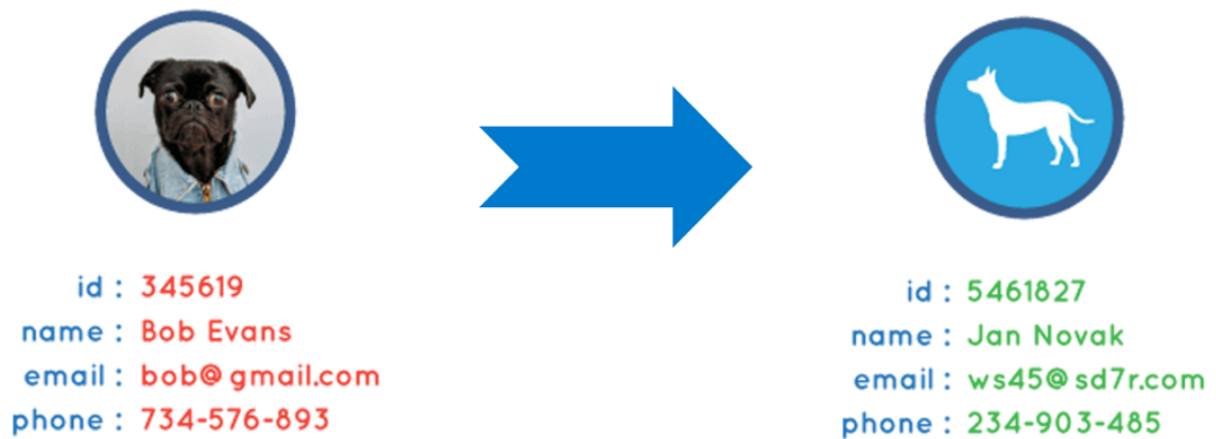**Velg ett alternativ:**

◉ Synthetic data

○ Feature engineering

○ Data anonimization

○ Data preparation

22   The figure below an example of :

Velg ett alternativ:

◉ Data annonimization

○ Feature engineering

○ Synthetic data generation

○ Data labeling

id : 345619
name : Bob Evans
email : bob@gmail.com
phone : 734-576-893

id : 5461827
name : Jan Novak
email : ws45@sd7r.com
phone : 234-903-485

23   While working with creating Artificial Intelligence applications, In which area do AI programmers
spend most of their time ?
Velg ett alternativ:

○ Model development

○ A.I programming

◉ Data processing (cleaning, labeling etc)

○ ML OPS

24 Regression models are used with

Velg ett alternativ:

○ Random data

◉ Continuous data

○ none of the above

25 Infrared sensors detect infrared energy that is emitted by one's body heat. When hands are placed in the proximity of the sensor, the infrared energy quickly fluctuates. This fluctuation triggers the pump to activate and dispense the designated amount of sanitizer. This is an example of:
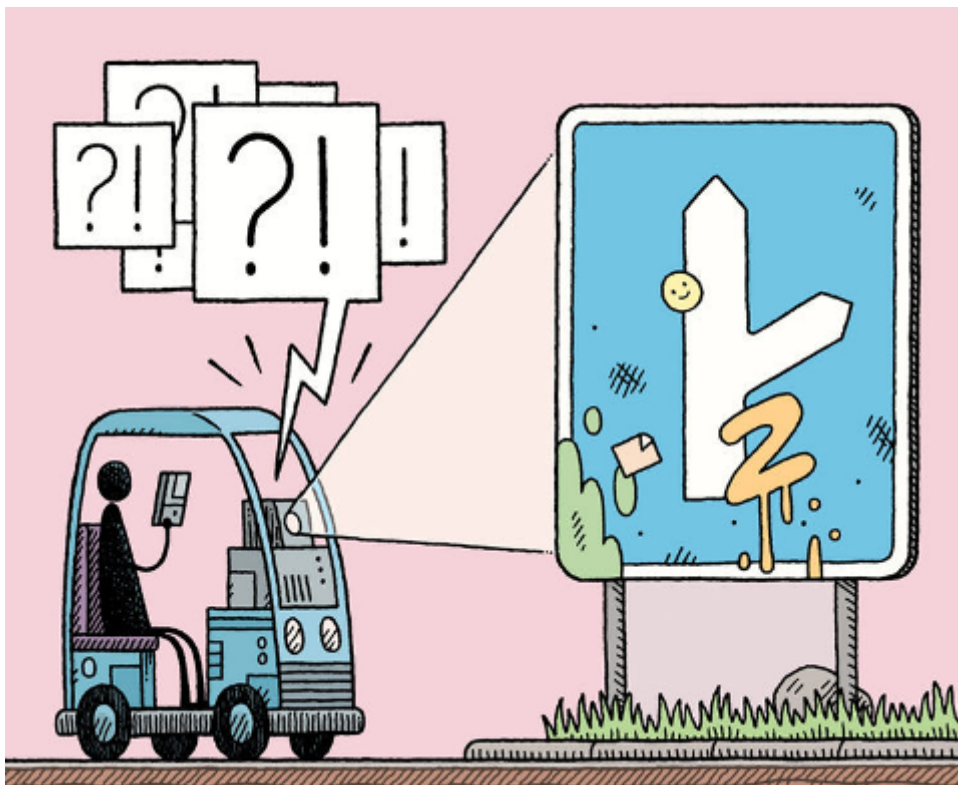
Velg ett alternativ:

○ AI machine

◉ Automated machine

○ Deep Learning machine

26 In the following image the self driving car came to an abrupt stop. What do you think went wrong ?

Velg ett alternativ:

○ Self driving cars have problems with blue color

○ The smiley face picture on the board is interpreted as a human face and the car cannot move

◉ A handful of stickers and graffitii have confused the car to misinterpret the sign

○ The human took the floppy drive out of the car and the car cannot move

27   Algorithm which does not consider relationships between features is:

Velg ett alternativ:

○ Support vector machines

○ Linear regression

◉ Naive Bayes

○ Logistic regression

28   Choose the correct order of an AI project cycle.

Velg ett alternativ:

○ Evaluation -> Problem Scoping -> Data Exploration -> Data Acquisition -> Modelling

◉ Problem Scoping -> Data Acquisition -> Data Exploration -> Modelling -> Evaluation

○ Data Acquisition -> Problem Scoping -> Data Exploration -> Modelling -> Evaluation

○ Problem Scoping -> Data Exploration -> Data Acquisition -> Evaluation -> Modelling

29   The major reason behind the increased use of Artifical intelligence today is due to
Velg ett alternativ:

○ Increased connectivity between devices

○ Cloud computing

○ Availability of increased data

○ Powerful processors

◉ All of the above

30 The output of a sigmoid function (for classification algoithms) has a range from
Velg ett alternativ:

- ⚪ 0 to 1000

- ⚫ 0 to 1

- ⚪ 0 to 100

- ⚪ 0 to 10

31 Amazon had been working on a secret AI recruiting tool. The machine-learning specialists uncovered a big problem: their new recruiting engine did not like women. The system taught itself that male candidates were:

Velg ett alternativ:

- ⚪ AI access

- ⚪ Data Exploration

- ⚪ Data Privacy

- ⚫ AI Bias

32   Suppose that you are given the previous tax information of all individuals and you now have to develop an algorithm which predicts how much tax will they submit next year. Which type of algorithm would you use ?

Velg ett alternativ:

- ◉ Regression

- ○ Classification

- ○ Clustering

- ○ Association

33   The process of collecting new attributes from an existing data (to train a machine learning model) is called:

Velg ett alternativ:

- ○ Data wrangling

- ○ Data labeling

- ○ Data mining

- ◉ Feature engineering

34   Suppose you have to build a machine learning model to predict the price of housing market in Norway. What kind of models would you choose?

Velg ett alternativ:

- ○ Reinforcement models

- ◉ Regression models

- ○ Classification models

35   Choose the correct option:
Velg ett alternativ:

○ Decision Tree -> Only discrete data

○ Classification -> continuous data

○ Regression -> discrete data sets

◉ Clustering -> unknown data set

36   What does a classification model do ?

Velg ett alternativ:

○ Clusters responses in groups based on similarity, to find patterns

○ None of the above

○ Predicts real number responses such as changes in temperature, date, or time

◉ Predicts the class of the data

37   The correlation between the number of years an employee has worked for a comany and the salary of the employee is 0.75. What can be said about employee salary and years worked ?
Velg ett alternativ:

○ There is no relationship between salary and years worked

○ Individuals that have worked for the company the longest have lower salaries

◉ Individuals that have worked for the company the longest have higher salaries

○ The majority of employees have been with the company a long time

38 Identify which of the following is incorrect about the unsupervised learning-based model.

Velg ett alternativ:

○ We can provide a very large data set.

○ The algorithm itself analyzes the data set and determines relationship within that data.

◉ The labelled data is fed with some rules by the developers.

○ It lets make predictions and improves the algorithms on its own.

39 Supose you are given the task to predict the high price for Tesla stock for the next day. You need data for atlast 15 years and you only have data for the last 5 years. How will you get that missing data ?

Velg ett alternativ:

○ Data annonimization

○ Feature engineering

○ Data warehousing

◉ Synthetic data

40   Logistic regression is a _____ regression technique that is used to model data having a _____
outcome.

Velg ett alternativ:

○ nonlinear, numeric

○ linear, numeric

○ nonlinear, binary

◉ linear, binary

41   What kind of algorithm assumes that the presence of a particular feature in a class is unrelated
to the presence of any other feature
Velg ett alternativ:

○ Polynomial regression

◉ Naive Bayes algortihm

○ Linear regression

○ Logistic regression

42   In Machine learning, Linear Regression falls within the category of:

Velg ett alternativ:

◉ Supervised learning

○ Unsupervised learning

○ Recommender systems

○ Reinforcement learning

43	What is a Turing test in Artificial Intelligence?
	Velg ett alternativ:

○ Turing test determines if a machine is capable of thinking like a human being.

○ Turing test determines if a machine is capable of acting like super computers.

○ Turing test determines if a human is capable of thinking like a machine.