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NEW QUESTION: 1

What function is used in a Neural Network?

- A. Linear.
- B. Activation.
- C. Statistical.
- D. Trigonometric.

Answer: B (LEAVE A REPLY)

Activation Functions

An activation function in a neural network defines how the weighted sum of the input is transformed into an output from a node or nodes in a layer of the network.

<https://machinelearningmastery.com/choose-an-activation-function-for-deep-learning/#:~:text=An%20activation%20function%20in%20a,a%20layer%20of%20the%20network.>

NEW QUESTION: 2

An AI agent relies on its perceptual input. This is called the agent's what?

- A. Position
- B. Environment
- C. World
- D. Percept

Answer: D (LEAVE A REPLY)

Agent Terminology

Performance Measure of Agent – It is the criteria, which determines how successful an agent is.

Behavior of Agent – It is the action that agent performs after any given sequence of percepts.

Percept – It is agent's perceptual inputs at a given instance.

Percept Sequence – It is the history of all that an agent has perceived till date.

Agent Function – It is a map from the precept sequence to an action.

https://www.tutorialspoint.com/artificial_intelligence/artificial_intelligence_agents_and_environments.htm

NEW QUESTION: 3

An agent based model is a simulation of autonomous agents (individual and collective). What can be used to

learn from the data generated by the simulations?

- A. Paraview.
- B. Machine Learning.
- C. Python.
- D. A spreadsheet

Answer: D (LEAVE A REPLY)

Explanation

<https://www.pnas.org/doi/10.1073/pnas.082080899>

NEW QUESTION: 4

Para View allows large data sets to be visualised on a parallel computer.

Which of the following is one of the techniques used?

- A. Norm calculation.
- B. Dashboard.
- C. Contour plot
- D. Eigen function analysis.

Answer: C (LEAVE A REPLY)

Explanation

ParaView is an open-source, multi-platform visualization application that allows large data sets to be visualized on a parallel computer. ParaView uses a variety of techniques to visualize data, including contour plots, which are useful for visualizing 3D data sets. Contour plots are created by plotting a set of curves connecting points of equal value, with each curve representing a particular value. This allows 3D data sets to be visualized in a 2D format, making it easier to understand the data.

References: [1] BCS Foundation Certificate In Artificial Intelligence Study Guide, Page number 19 [2] APMG International, "What is ParaView?", <https://apmg-international.com/en/blog/what-is-paraview/> [3] EXIN,

"What is ParaView?", <https://www.exin.com/blog/what-is-paraview/>

NEW QUESTION: 5

The EU's Ethical Guidelines use what to demonstrate trustworthy AI?

- A. A quality assurance plan.
- B. UN's sustainability goals.
- C. Customer feedback.
- D. A human-centric value system.

Answer: D (LEAVE A REPLY)

Explanation

The European Union's Ethical Guidelines for Trustworthy AI use a human-centric value system to demonstrate that Artificial Intelligence (AI) is trustworthy. This value system is based on human rights, autonomy, safety, privacy, transparency, accountability and fairness. The guidelines also state that AI should be designed, developed and used in a manner that respects these values. References:

* <https://ec.europa.eu/digital-single-market/en/news/ethical-guidelines-trustworthy-ai>

* BCS Foundation Certificate In Artificial Intelligence Study Guide (2019), A.I & Ethics, Chapter 5.

NEW QUESTION: 6

Which factor of a Waterfall' approach is most likely to result in the failed delivery of an AI project?

- A.** Takes longer to deliver all functional requirements.
- B.** Discourages collaboration and cross boundary communication.
- C.** Takes longer to complete the design phase of the project.
- D.** Discourages revisiting and revising any prior phase once it is complete.

Answer: (SHOW ANSWER)

Explanation

The Waterfall approach is a sequential design process in which each phase of development must be completed before the next phase can begin. This means that once a phase is complete, it is difficult to go back and make changes, as any changes made to the project could potentially affect all the other phases. As a result, the Waterfall approach can make it difficult to adapt to changing customer requirements or adjust to new technology. This can ultimately lead to the failed delivery of an AI project.

References: [1] BCS Foundation Certificate In Artificial Intelligence Study Guide, Page number 19 [2] APMG International, "What is a Waterfall Model?", <https://apmg-international.com/en/blog/what-is-a-waterfall-model/> [3] EXIN, "What is the Waterfall Model?", <https://www.exin.com/blog/what-is-the-waterfall-model/>

NEW QUESTION: 7

Tensor flow is a typical open source what?

- A.** Cloud based AI application.
- B.** Intelligent robot paradigm.
- C.** Machine learning library.
- D.** Agent based modelling application

Answer: C (LEAVE A REPLY)

Explanation

TensorFlow is an end-to-end open source platform for machine learning. It has a comprehensive, flexible ecosystem of tools, libraries and community resources that lets researchers push the state-of-the-art in ML and developers easily build and deploy ML powered applications.

<https://www.tensorflow.org/#:~:text=TensorFlow%20is%20an%20end%2Dto,and%20deploy%20ML%20power> TensorFlow is an open source machine learning library created by Google. It is used for dataflow programming and is widely used for a variety of applications, including machine learning and deep learning.

TensorFlow enables developers to build, train and deploy machine learning models easily and quickly. It has built-in support for a variety of deep learning frameworks, such as convolutional neural networks, recurrent neural networks, and autoencoders.

For more information, please refer to the BCS Foundation Certificate In Artificial Intelligence Study Guide (<https://www.bcs.org/upload/pdf/bcs-foundation-certificate-in-artificial-intelligence-study-guide.pdf>) or the EXIN Artificial Intelligence Foundation Certification (<https://www.exin.com/en/exams/artificial-intelligence-foundation>).

NEW QUESTION: 8

What is defined as a machine that can carry out a complex series of tasks automatically?

- A. A robot
- B. A production line.
- C. A computer.
- D. An autonomous vehicle.

Answer: A (LEAVE A REPLY)

Explanation

<https://en.wikipedia.org/wiki/Robot#:~:text=A%20robot%20is%20a%20machine,control%20may%20be%20em>

NEW QUESTION: 9

What is defined as a philosophy, or set of assumptions and/or techniques, which characterise an approach to a class of problems?

- A. An approach.
- B. A set
- C. A paradigm.
- D. An algorithm.

Answer: C (LEAVE A REPLY)

Explanation

A paradigm is defined as a philosophy, or set of assumptions and/or techniques, which characterise an approach to a class of problems. Paradigms are often used in Artificial Intelligence to provide a structure for problem solving, allowing for better understanding of the problem and providing a framework for developing a solution. For example, the logic-based approach is a paradigm that uses logical reasoning to solve problems.

For more information, please refer to the BCS Foundation Certificate in Artificial Intelligence Study Guide: <https://www.bcs.org/category/18076/bcs-foundation-certificate-in-artificial-intelligence-study-guide>.

NEW QUESTION: 10

Narrow or weak AI can be useful to robots.

Which of the following is an example of narrow AI?

- A. Artificial General AI.

- B. Conscious integration.
- C. Conscious simulation.
- D. NLP - Natural Language Processing.

Answer: ([SHOW ANSWER](#))

NEW QUESTION: 11

An intelligent robot uses AI to do what?

- A. Sense, plan and act
- B. Plan, act and speak.
- C. Perceive, plan and act.
- D. Sense, plan and move.

Answer: C ([LEAVE A REPLY](#))

Explanation

An intelligent robot uses Artificial Intelligence (AI) to perceive its environment, plan its actions and then act on them. This is sometimes referred to as the "sense, plan, act" cycle, and is at the heart of what makes a robot intelligent. By using AI, robots can sense their environment, plan their actions accordingly and then act on them in order to complete their tasks.

For more information, please refer to the BCS Foundation Certificate in Artificial Intelligence Study Guide: <https://www.bcs.org/category/18076/bcs-foundation-certificate-in-artificial-intelligence-study-guide>.

NEW QUESTION: 12

What is defined as a philosophy, or set of assumptions and/or techniques, which characterise an approach to a class of problems?

- A. A paradigm.
- B. An approach.
- C. An algorithm.
- D. A set

Answer: ([SHOW ANSWER](#))

NEW QUESTION: 13

How could machine learning make a robot autonomous?

- A. Use OCR, optical character recognition, to read documents
- B. Use NLP (Natural Language Processing) to listen
- C. Use actuators to modify its environment
- D. Learn from sensor data and plan to carry out a task.

Answer: B ([LEAVE A REPLY](#))

<https://arxiv.org/pdf/1803.10813>

NEW QUESTION: 14

In an AI project the domain expert is the person...

- A. with technical and managerial oversight of the business plan
- B. who manages the agile project and writes the technical terms of reference
- C. who measures the trustworthiness of the AI system
- D. with special knowledge or skills in the area of endeavour and defines what is fit for purpose'

Answer: (SHOW ANSWER)

Explanation

In an AI project, a domain expert is a person with special knowledge or skills in that particular area of endeavour, and they are responsible for defining what is "fit for purpose" for the project. The domain expert provides insights into the problem and suggests ways to address it. They also provide guidance on evaluating and validating the AI system and its outputs. The domain expert is also responsible for communicating with stakeholders and providing feedback on the progress of the project. References:

* BCS Foundation Certificate In Artificial Intelligence Study Guide (2019), AI & People, Chapter 12.

* <https://www.apmg-international.com/en/al-adoption/domain-expert/>

NEW QUESTION: 15

Professor David Chalmers described consciousness as having two questions. What were these?

- A. Can we integrate our knowledge to form consciousness and can we simulate consciousness?
- B. What is the sub conscious and what is the conscious?
- C. An easy one and a hard one.
- D. Are only humans conscious and are machines always unconscious?

Answer: A (LEAVE A REPLY)

NEW QUESTION: 16

Professor David Chalmers described consciousness as having two questions. What were these?

- A. An easy one and a hard one.
- B. What is the sub conscious and what is the conscious?
- C. Can we integrate our knowledge to form consciousness and can we simulate consciousness?
- D. Are only humans conscious and are machines always unconscious?

Answer: B (LEAVE A REPLY)

Explanation

Professor David Chalmers described consciousness as having two questions: "What is it like to be conscious?" and "Can machines be conscious?". The first question, "What is it like to be conscious?", is an attempt to understand what it is like to experience the subjective aspects of consciousness, such as feeling, emotion, and perception. The second question, "Can machines be conscious?", is an attempt to understand whether or not machines can have the same kinds of subjective experiences as humans. For more information, please see the BCS Foundation Certificate In Artificial Intelligence Study Guide or the resources listed above.

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NEW QUESTION: 17

Healthcare can benefit from AI, and in particular Machine Learning, an example of which is?

- A. Autonomous wheelchairs.
- B. Automated blood sampling.
- C. Autonomous vehicles.
- D. Diagnostic image analysis

Answer: D (LEAVE A REPLY)

Explanation

Healthcare can benefit from AI, and in particular Machine Learning, in a number of ways. One example is diagnostic image analysis, which can help to automatically identify and classify abnormalities in medical images such as X-rays, CT scans, and MRI scans. Machine Learning algorithms can be used to detect patterns in the data which can be used to accurately diagnose diseases and illnesses.

References:

[1] <https://www.bcs.org/upload/pdf/foundation-certificate-ai-syllabus-v1.pdf> [2] <https://www.apmg-international>

NEW QUESTION: 18

Sustainability focuses on which three core areas?

- A. Scientific, Environmental and Economic.
- B. Social, Economic and Environmental.
- C. Social, Economic and Entrepreneurial.
- D. Social, Entrepreneurial and Environmental.

Answer: B (LEAVE A REPLY)

Explanation

The term sustainability is broadly used to indicate programs, initiatives and actions aimed at the preservation

of a particular resource. However, it actually refers to four distinct areas: human, social, economic and environmental - known as the four pillars of sustainability.

<https://www.futurelearn.com/info/courses/sustainable-business/0/steps/78337#:~:text=However%2C%20it%20ac>

NEW QUESTION: 19

An AI agent relies on its perceptual input. This is called the agent's what?

- A. Position
- B. Environment
- C. World
- D. Percept

Answer: D (LEAVE A REPLY)

Explanation

- * Performance Measure of Agent It is the criteria, which determines how successful an agent is.
- * Behavior of Agent It is the action that agent performs after any given sequence of percepts.
- * Percept It is agent's perceptual inputs at a given instance.
- * Percept Sequence It is the history of all that an agent has perceived till date.
- * Agent Function It is a map from the precept sequence to an action.

Agent Terminology

https://www.tutorialspoint.com/artificial_intelligence/artificial_intelligence_agents_and_environments.htm

NEW QUESTION: 20

What are monotonous and repetitive tasks, that require accuracy BEST suited to?

- A. Artificial General Intelligence.
- B. Machine.
- C. Human.
- D. Human plus machine.

Answer: B (LEAVE A REPLY)

NEW QUESTION: 21

In Machine learning what are a brain's axons called?

- A. Nodes
- B. Dendrites
- C. Edges
- D. Tetrahedra.

Answer: B (LEAVE A REPLY)

NEW QUESTION: 22

Reflex and Model-based Reflex are two types of what?

- A. Robot
- B. Artificial intelligent agents.
- C. Algorithms.
- D. Compilers.

Answer: B (LEAVE A REPLY)

Explanation

Reflex and Model-based Reflex are two types of Artificial Intelligent Agents. Artificial Intelligent Agents are computer systems designed to act and think in a manner similar to humans, incorporating elements of problem solving, decision-making, communication, and learning. Reflex agents are

reactive agents which act based on the current environment and conditions, while Model-based Reflex agents use a model of the environment to make decisions. References: BCS Foundation Certificate In Artificial Intelligence Study Guide, <https://bcs.org/ai/certificate/> and APMG International, <https://www.apmg-international.com/qualifications/artificial-intelligence-foundation-certificate>.

NEW QUESTION: 23

In the 1800's the development of statistics led to _____ theorem and is used in probabilistic inference. (Select the missing word.)

- A. The central limit
- B. Bayes'
- C. Boltzmann's
- D. Kolmogorov's

Answer: D (LEAVE A REPLY)

NEW QUESTION: 24

Which of the following is an example of fitting a curve to a set of data?

- A. Least squares regression.
- B. Bayesian network.
- C. Python.
- D. Backward propagation.

Answer: (SHOW ANSWER)

NEW QUESTION: 25

Which factor of a Waterfall' approach is most likely to result in the failed delivery of an AI project?

- A. Discourages collaboration and cross boundary communication.
- B. Takes longer to deliver all functional requirements.
- C. Discourages revisiting and revising any prior phase once it is complete.
- D. Takes longer to complete the design phase of the project.

Answer: D (LEAVE A REPLY)

NEW QUESTION: 26

In an AI project the domain expert is the person...

- A. with special knowledge or skills in the area of endeavour and defines what is fit for purpose'
- B. with technical and managerial oversight of the business plan
- C. whomanages the agile project and writes the technical terms of reference
- D. who measures the trustworthiness of the AI system

Answer: D (LEAVE A REPLY)

NEW QUESTION: 27

Reflex and Model-based Reflex are two types of what?

- A. Artificial intelligent agents.

- B. Robot
- C. Algorithms.
- D. Compilers.

Answer: A ([LEAVE A REPLY](#))

NEW QUESTION: 28

What is one of the MAIN contributions of AI to the rapid development of The Fourth Industrial Revolution?

- A. Enhanced design.
- B. Automation
- C. Big Data
- D. AI personal assistants.

Answer: ([SHOW ANSWER](#))

Explanation

<https://research.com/careers/what-is-the-fourth-industrial-revolution>

NEW QUESTION: 29

What does TRL stand for?

- A. Technical Robotic Level.
- B. Transform Reinforced Learning
- C. Technology Readiness Level.
- D. Transport Ready Level.

Answer: ([SHOW ANSWER](#))

Explanation

Technology Readiness Level (TRL) Technology Readiness Levels (TRL) are a method of estimating the technology maturity of Critical Technology Elements (CTE) of a program during the acquisition process.

<https://acqnotes.com/acqnote/tasks/technology-readiness-level#:~:text=Technology%20Development-,Technolog>

NEW QUESTION: 30

The EU's Ethical Guidelines use what to demonstrate trustworthy AI?

- A. UN's sustainability goals.
- B. Customer feedback.
- C. A quality assurance plan.
- D. A human-centric value system.

Answer: A ([LEAVE A REPLY](#))

NEW QUESTION: 31

Professor David Chalmers described consciousness as having two questions. What were these?

- A. Are only humans conscious and are machines always unconscious?
- B. Can we integrate our knowledge to form consciousness and can we simulate consciousness?
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Answer: A (LEAVE A REPLY)

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NEW QUESTION: 32

Collaboration, learning and iterative are terms used to describe what?

- A. Waterfall projects.
- B. Rapid software development.
- C. Trustworthy AI.
- D. Agile projects

Answer: (SHOW ANSWER)

Explanation

Collaboration, learning, and iterative are terms used to describe agile projects. Agile projects are designed to be adaptive and flexible, allowing teams to incorporate feedback and learn from their mistakes. This process encourages collaboration between team members, and emphasizes the importance of iterative development and continual improvement. Agile projects focus on delivering value quickly and efficiently, allowing teams to make changes and adapt to changing customer needs.

References:

[1] <https://www.bcs.org/upload/pdf/foundation-certificate-ai-syllabus-v1.pdf> [2] <https://www.apmg-international>

NEW QUESTION: 33

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<https://en.wikipedia.org/wiki/Robot#:~:text=A%20robot%20is%20a%20machine,control%20may%20be%20embedded%20within.>

NEW QUESTION: 34

What is one of the MAIN contributions of AI to the rapid development of The Fourth Industrial Revolution?

- A. Enhanced design.
- B. Automation
- C. Big Data
- D. AI personal assistants.

Answer: C (LEAVE A REPLY)

<https://research.com/careers/what-is-the-fourth-industrial-revolution>

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