What...

3 - Quiz

Que tipo de agente é o seguinte?

You answered
- ✅ **Agente Simples Reflexo** ✓
- 🔺 Agente Simples Reflexo ✓
- 🔷 Agente Baseado em Utilidade
- 🟧 Agente baseado em Objetivos
- 🟩 Agente com Representação do Mundo

1 - Quiz

O que significa PEAS?

You answered
- ✅ **Performance Measure, Environment, Actuators, Sensors** ✓
- 🔺 Proactive, Environment, Action, Sensation
- 🔷 Performance Measure, Environment, Actuators, Sensors ✓
- 🟧 Performance, Eficiency, Action, Sensor
- 🟩 Perception, Eficiency, Action, Sensation

2 - Quiz

Quais as propriedades do ambiente de um jogo de Futebol Robótico?

You answered
- ✅ **Não Acessível, Não Determinístico, Dinâmico, Contínuo** ✓
- 🔺 Não Acessível, Determinístico, Estático, Discreto
- 🔷 Acessível, Determinístico, Dinâmico, Discreto
- 🟧 Não Acessível, Não Determinístico, Dinâmico, Contínuo ✓
- 🟩 Não Acessível, Não Determinístico, Dinâmico, Discreto

4 - Quiz

Qual o próximo nó expandido usando Pesquisa de Custo Uniforme

You answered
- ✅ **D** ✓
- 🔺 C
- 🔷 D ✓
- 🟧 E
- 🟩 G

5 - Quiz

Qual o próximo nó expandido usando Pesquisa Gulosa?

You answered
- ✅ **G** ❌
- 🔺 C ✓
- 🔷 D
- 🟧 G
- 🟩 H

6 - Quiz

Qual o próximo nó expandido usando o Algoritmo A*?

You answered
- ✅ **G** ✓
- 🔺 H
- 🔷 D
- 🟧 E
- 🟩 G ✓

7 - Quiz

Qual a ação resultante da aplicação do algoritmo Minimax e qual ação escolhida?

You answered
- ✅ **Valor: 3 ; Ação: A1** ✓
- 🔺 Valor: 2 ; Ação: A2
- 🔷 Valor: 2 ; Ação: A3
- 🟧 Valor: 3 ; Ação: A1 ✓
- 🟩 Valor: 14 ; Ação: A3

8 - Quiz

Quais os cortes alfabeta realizados na aplicação do Algoritmo Minimax?

You answered
- ✅ **A22 e A23** ✓
- 🔺 A12, A13, A22 e A23
- 🔷 A22 e A23 ✓
- 🟧 A22, A23, A32 e A33
- 🟩 A3

9 - Quiz

Quais os cortes alfabeta realizados na aplicação do Algoritmo Minimax?

You answered
- ✅ **FO, GQ, CI e KY** ✓
- 🔺 EM, FO e GQ
- 🔷 CH e DJ
- 🟧 FO, GQ, IU e KX
- 🟩 FO, GQ, CI e KY ✓

10 - Quiz

Qual o jogo mais complicado, para uma máquina, de jogar a nível profissional, usando Algoritmo Minimax (cortes alfabeta)

You answered
- ✅ **Xadrez** ✓
- 🔺 Jogo do Galo
- 🔷 Xadrez ✓
- 🟧 4 em Linha
- 🟩 Damas

1 - Quiz

Quais os cortes alfabeta realizados na aplicação do Algoritmo Minimax?

⬛ You didn't answer
- 🔺 EM, FO e GQ
- 🔷 CH e DJ
- 🟧 FO, GQ, IU e KX
- 🟩 FO, GQ, CI e KY ✓

2 - Quiz

What is the objective of simulated annealing?

⬛ You didn't answer
- 🔺 Find a good exploitation-exploration tradeoff
- 🔷 Find local minimum/maximum
- 🟧 Reduce the temperature of a system to optimize
- 🟩 Find the global minimum/maximum ✓

5 - Quiz

What is the following algorithm?

You answered
- ✅ **Simulated Anealling** ✓
- 🔺 Hill climbing
- 🔷 Tabu Search
- 🟧 Simulated Anealling ✓
- 🟩 Ant Colony Optimization

7 - Quiz

What is swarm intelligence?

You answered
- ✅ **Emergent collective intelligence** ✓
- 🔺 Central control, many individuals controlled
- 🔷 "Dumb" form of global centralized intelligence
- 🟧 Emergent collective intelligence ✓
- 🟩 Fragile form of intelligence if an individual dies

2 - Quiz

What are the main Types of Machine Learning?

You answered
- ✅ **Reinforcement, Supervised and Unsupervised Learning** ✓
- 🔺 Supervised and Labeled Learning
- 🔷 Reinforcement, Supervised and Unsupervised Learning ✓
- 🟧 Supervised, Unsupervised, Mixed and Global Learning
- 🟩 Reinforcement and Deep Learning

3 - Quiz

What are the main types/applications of Supervised Learning?

You answered
- ✅ **Regression and Classification** ✓
- 🔺 Reinforcement and Unsupervised
- 🔷 Classification and Labeling
- 🟧 Regression and Classification ✓
- 🟩 Unsupervised, Labeling and Regression

7 - Quiz

O que são Outliers?

You answered
- ✅ **Dados extremos que diferem da distribuição habitual dos restantes dados** ✓
- 🔺 Dados extremos que diferem da distribuição habitual dos restantes dados ✓
- 🔷 Dados com ruído que nunca podem ser usados para ML
- 🟧 Dados errados
- 🟩 Dados com distribuição normal mas classificação errada

1 - Quiz

What are the main Types of Machine Learning?

You answered
- ✅ **Reinforcement, Supervised and Unsupervised Learning** ✓
- 🔺 Supervised and Labeled Learning
- 🔷 Reinforcement, Supervised and Unsupervised Learning ✓
- 🟧 Supervised, Unsupervised, Mixed and Global Learning
- 🟩 Reinforcement and Deep Learning

2 - Quiz

What are the main types/applications of Supervised Learning?

You answered
- ✅ **Regression and Classification** ✓
- 🔺 Reinforcement and Unsupervised
- 🔷 Classification and Labeling
- 🟧 Regression and Classification ✓
- 🟩 Unsupervised, Labeling and Regression

10 - Quiz

Que Algoritmo de Clustering está representado na figura?

You answered
- ✅ **Algoritmo K-Nearest Neighbour** ❌
- 🔺 Algoritmo Hierárquico Aglomerativo
- 🔷 Algoritmo K-Means ✓
- 🟧 Algoritmo Hierárquico Divisivo
- 🟩 Algoritmo K-Nearest Neighbour

Which...

4 - Quiz

Which of the following may be used as Optimization Algorithms

You answered
- ✅ **Genetic Algorithms and Simulated Annealing**
- 🔺 Artificial Neural Networks and Support Vector Machines
- 🔷 Genetic Algorithms and Simulated Annealing ✓
- 🟧 Correlation and Classification Algorithms
- 🔺 Decision Trees and Minimax

10 - Quiz

Which of the following may be considered as Meta-Heuristics?

You answered
- ✅ **Tabu Search, Simulated Annealing, Genetic Algorithms** ✓
- 🔺 Tabu Search, Simulated Annealing, Genetic Algorithms ✓
- 🔷 Minimax, A* Algorithm, Genetic Algorithms ✓
- 🟧 Particle Swarm, Ant Colony, Simplex Algorithm, A* Algorithm

6 - Quiz

Which of the following is a characteristic of decision trees?

You answered
- ✅ **Decision trees are prone to be overfit** ✓
- 🔺 Decision trees do factor analysis
- 🔷 Decision trees are very robust to outliers
- 🟧 Decision trees are prone to be overfit ✓

9 - Quiz

Which of the following is not associated with Neural Networks

You answered
- ✅ **Input / Output Layer** ❌
- 🔺 Training
- 🔷 Weights
- 🟧 DNA strands ✓

10 - Quiz

Which Python Libraries are useful for Machine Learning?

You answered
- ✅ **Pandas, NumPy, Scikit Learn** ✓
- 🔺 CLion, PyTorch, PyGame
- 🔷 Bear, NumPy, MathLib, MathPlot2
- 🟧 Pandas, NumPy, Scikit Learn ✓
- 🟩 MathPlot, MathLib, LearnPy

4 - Quiz

Which of the following is a characteristic of decision trees?

You answered
- ✅ **Decision trees are prone to be overfit** ✓
- 🔺 Decision trees do factor analysis
- 🔷 Decision trees are very robust to outliers
- 🟧 Decision trees are prone to be overfit ✓
- 🟩 Decision trees use synapses

7 - Quiz

Which of the following is not associated with Neural Networks

You answered
- ✅ **DNA strands** ✓
- 🔺 Training
- 🔷 Weights
- 🟧 DNA strands ✓
- 🟩 Input / Output Layer

8 - Quiz

Which Python Libraries are useful for Machine Learning?

You answered
- ✅ **Pandas, NumPy, Scikit Learn** ✓
- 🔺 CLion, PyTorch, PyGame
- 🔷 Bear, NumPy, MathLib, MathPlot2
- 🟧 Pandas, NumPy, Scikit Learn ✓
- 🟩 MathPlot, MathLib, LearnPy

7 - Quiz

Which of the following are aimed at helping the researcher on implementing RL applications?

You answered
- ✅ **Open AI Gym and ML-Agents** ✓
- 🔺 RL Agents and SARSA Tool
- 🔷 Gym and RL-Tools2
- 🟧 Q-Learning and AgentNet
- 🟩 Open AI Gym and ML-Agents ✓

In which...

8 - Quiz

In which algorithm may be a tournament selection?

You answered

Genetic Algorithms ✔

🔺 Hill climbing

🔷 Tabu Search

🟧 Simulated Anealling

🟩 Genetic Algorithms ✔

9 - Quiz

In which algorithm there is a list of forbidden states/moves ?

You answered

Tabu Search ✔

🔺 Hill climbing

🔷 Tabu Search ✔

🟧 Simulated Anealling

🟩 Genetic Algorithms

The...

3 - Quiz

The simulated annealing algorithm...

You answered

Decreases the temperature, accepting worse solutions as time goes on ✖

🔺 Decreases the temperature, accepting better solutions as time goes on

🔷 Decreases the temperature, accepting worse solutions as time goes on

🟧 Increases the temp, accepting worse solutions as time goes on

🟩 Starts by accepting only better solutions but at the end accepts also worse

2 - Quiz

A tarega de part-of-speech (POS) tagging consiste em:

You answered

distinguir a categoria gramatical das palavras (nome, verbo, adjetivo, ...) ✔

🔺 construir a árvore sintática da frase

🔷 distinguir a categoria gramatical das palavras (nome, verbo, adjetivo, ...) ✔

🟧 determinar correspondência entre diferentes menções a um mesmo objeto

🟩 desambiguar o significado das palavras

6 - Quiz

The main idea behind Genetic Algorithms come from...?

You answered

Darwin's Theory of Evolution ✔

🔺 Darwin's Theory of Evolution ✔

🔷 Holland's Theory of Genetics

🟧 Alan Turing's Intelligent Machinery

🟩 Socrates Logic Theories

3 - Quiz

A resolução de correferências consiste em:

You answered

determinar correspondência entre diferentes menções a um mesmo objeto ✔

🔺 desambiguar o significado das palavras

🔷 determinar a categoria gramatical das palavras

🟧 determinar correspondência entre diferentes menções a um mesmo objeto ✔

🟩 reconhecer endidades mencionadas no texto

10 - Quiz

O Método k-Fold Cross Validation

You answered

Em cada experiência (run) usa: k-1 folds para treino e1 fold para teste ✔

🔺 Em cada experiência (run) usa: k-1 folds para treino e 1 fold para teste ✔

🔷 Em cada experiência (run) usa: 2 folds para treino e 1 fold para teste

🟧 Em cada experiência (run) usa: 1 folds para treino e 1 fold para teste

🟩 Em cada experiência (run) usa: 1 folds para treino e k-1 fold para teste

A forma de representação conhecida por bag-of-words:

You answered

contabiliza o número de ocorrências de cada palavra no texto ✔

🔺 tem em conta a ordem das palavras no texto

🔷 contabiliza o número de ocorrências de cada palavra no texto ✔

🟧 permite capturar o contexto de cada palavra no texto

🟩 lida bem com fenómenos linguísticos como a negação

1 - Quiz

The following code refers to a _____ Algorithm.

You answered

Forward Chaining ✖

🔺 Forward Chaining

🔷 Backward Chaining ✔

🟧 Genetic

🟩 Tabu Search

7 - Quiz

A utilização de léxicos de sentimento:

You answered

pode permitir diferentes graus de sentimento nas palavras do léxico ✔

🔺 exige que todas as palavras do dicionário estejam etiquetadas

🔷 limita-se à polaridade (positiva/negativa) das palavras

🟧 pode permitir diferentes graus de sentimento nas palavras do léxico ✔

🟩 só faz sentido se o vocabulário dos conjuntos de treino e teste for igual

1 - Quiz

A tarefa de tokenização consiste em:

You answered

dividir um texto em palavras ou partes de palavras ✔

🔺 dividir um texto em frases

🔷 dividir um texto em palavras ou partes de palavras ✔

🟧 dividir um texto em parágrafos

🟩 determinar a categoria gramatical das palavras

9 - Quiz

As seguintes são Metodologias para Extração de Conhecimento

You answered

KAPS, CREEP e CRISP-DM ✖

🔺 KDD, KAPS e CREEP

🔷 KAPS, CREEP e CRISP-DM

🟧 KDD, CRISP-DM e SEMMA ✔

🟩 SEMMA, Analysys+ e DataMark

In...

4 - Quiz

In _____ we try to find the decision boundary, which can divide the dataset into different groups.

You answered

Classification ✔

🔺 Classification ✔

🔷 Machine Learning

🟧 Supervised Learning

🟩 Regression ✔

6 - Quiz

$+ \gamma^2 R_{t+3} +$ In the cumulative reward function, what is represented by γ and multiplied by each term?

You answered

The discounting factor ✔

🔺 The discounting factor ✔

🔷 The multiplicative factor

🟧 The reward factor

🟩 The penalty factor

3 - Quiz

In _____ we try to find the decision boundary, which can divide the dataset into different groups.

You answered

Classification ✔

🔺 Classification ✔

🔷 Machine Learning

🟧 Supervised Learning

🟩 Regression ✔

9 - Quiz

In reinforcement learning

You answered

The reward tells us the exact sequence of actions we should do to solve it ✖

🔺 The search is guided by a dataset of pre-classified/ pre-evaluated actions

🔷 The reward tells us the exact sequence of actions we should do to solve it

🟧 The greedy action selection strategy uses both exploit and explore (50/50)

🟩 The expected reward of a policy is the "value" of the policy ✔

3 - Quiz

In the exploration-exploitation trade-off in Reinforcement Learning, "Exploration" refers to:

You answered

Agent do actions from its policy that are the optimal ones ✖

🔺 Agent do actions that it knows to be very effective

🔷 Agent try new actions not completely analysed before ✔

🟧 Agent learns by using supervised data

🟩 Agent do actions from its policy that are the optimal ones

1 - Quiz

In _____ we try to find the decision boundary, which can divide the dataset into different groups.

You answered

Classification ✔

🔺 Classification ✔

🔷 Machine Learning

🟧 Supervised Learning

🟩 Regression ✔

5 - Quiz

In RL, what is a Policy π?

You answered

A mapping from perceived states to actions ✔

🔺 A way of discussing with Supervised Algorithms

🔷 The goal/objective function of the RL problem

🟧 A mapping from perceived states to actions ✔

🟩 A Policy specifies what is good in the long run and its evaluation function

(Blank)_____ ...

5 - Quiz
_____ Learning can be used for those cases where we have input data and corresponding output data!

You answered

Reinforcement	✖

- 🔺 Supervised ✔
- 🔷 Unsupervised
- 🟧 Machine
- 🟩 Reinforcement

4 - Quiz
_____ Learning can be used for those cases where we have labelled input data!

You answered

Supervised	✔

- 🔺 Supervised ✔
- 🔷 Unsupervised
- 🟧 Machine
- 🟩 Reinforcement

2 - Quiz
_____ Learning can be used for those cases where we do not have labelled input data!

You answered

You didn't answer

- 🔺 Supervised
- 🔷 Unsupervised ✔
- 🟧 Machine
- 🟩 Reinforcement

Using…

7 - Quiz
Using K-Nearest Neighbour (with K=1) in which class is the Example Par1=3; Par2=2; Par3=5 classified?

You answered

Class B	✔

- 🔺 Class A
- 🔷 Class B ✔
- 🟧 Class C
- 🟩 It is not classified

8 - Quiz
Using K-Nearest Neighbour (with K=3) in which class is the Example Par1=8; Par2=5; Par3=6 classified?

You answered

Class C	✔

- 🔺 Class A
- 🔷 Class B
- 🟧 Class C ✔
- 🟩 It is not classified

Assuming…

9 - Quiz
Supondo a geração final de três clusters quais os pontos que ficam em clusters distintos?

You answered

7 e 10	✖

- 🔺 7 e 10
- 🔷 3 e 2
- 🟧 2 e 4 ✔
- 🟩 1 e 8

Reinforcement…

1 - Quiz
Reinforcement learning

You answered

Is the most close to human learning of the machine learning main types	✔

- 🔺 Is the most close to human learning of the machine learning main types ✔
- 🔷 Is a type of unsupervised learning
- 🟧 Is a type of supervised learning
- 🟩 Is a type of artificial networks learning

2 - Quiz
Reinforcement learning is focused on

You answered

Goal-directed learning from interaction	✔

- 🔺 Classification based learning with neural networks
- 🔷 Goal-directed learning from interaction ✔
- 🟧 Value based learning from pre-classified examples
- 🟩 Regression base learning from individuals

10 - Quiz
Reinforcement Learning Achieved Very Good Results on:

You answered

Playing Games and performing Robotic Tasks	✔

- 🔺 Classifying Images for person identification
- 🔷 Playing Games and performing Robotic Tasks ✔
- 🟧 Performing Robotic Tasks mainly Perception (vision and sound)
- 🟩 Natural Language Processing

Rest

6 - Quiz
Machine Learning is a new way of building computer programs because _____!

You answered

We use data and a program to build the output	✖

- 🔺 We use data and output to build the program ✔
- 🔷 We use data and a program to build the output
- 🟧 We are able to learn the input data from the program without using output
- 🟩 We solve new problems using software engineering

8 - Quiz
Eliminar dados; Estimar valores; Ignorar indivíduos/variáveis durante a análise

You answered

São Métodos para Analisar Duplicados	✖

- 🔺 São Métodos para Lidar com Ruído
- 🔷 São Métodos para Explorar Dados
- 🟧 São Métodos para Lidar com Valores Omissos
- 🟩 São Métodos para Analisar Duplicados

4 - Quiz
A Markov Decision Process includes:

You answered

States, Actions, Reward Function and Transitions (Action's Effects)	✔

- 🔺 Actions, Policy, Algorithms and Type
- 🔷 States, Actions, Reward Function and Transitions (Action's Effects) ✔
- 🟧 Actions base on: Q-Learning, SARSA, PPO
- 🟩 Discount, Reward, Penalty, Update and Relation factors

8 - Quiz
These are known Reinforcement Learning Algorithms:

You answered

SARSA, Q-Learning, PPO	✔

- 🔺 SARSA, Nearest Neighbour, StateAction
- 🔷 Neural Networks, Q-Learning, SVMs
- 🟧 SARSA, Q-Learning, PPO ✔
- 🟩 PPO, Neural Networks, KMeans

4 - Quiz
Um classificador do tipo generativo:

You answered

dada uma observação, obtém a classe que mais provavelmente a produziu	✔

- 🔺 dada uma observação, obtém a classe que mais provavelmente a produziu ✔
- 🔷 aprende que features do input são mais úteis para discriminar entre classes

5 - Quiz
Dos seguintes classificadores, qual não é do tipo discriminativo?

You answered

Naïve Bayes	✔

- 🔺 SVM
- 🔷 Decision Tree
- 🟧 Naïve Bayes ✔
- 🟩 Logistic Regression

8 - Quiz
Sobre word embeddings, NÃO é verdade que:

You answered

só podem ser utilizados com arquiteturas de deep learning	✔

- 🔺 permitem representar palavras como vetores densos de números reais
- 🔷 capturam o significado das palavras com base no contexto onde ocorrem
- 🟧 permitem explorar grandes quantidades de dados não anotados
- 🟩 só podem ser utilizados com arquiteturas de deep learning ✔