

## Robotics

- 1- In robotics low level control, every request must eventually be satisfied ensure ..... .
  - Deadlock free
  - Safety
  - Fast-response
  - Liveness
- 2- In robotics low level control, It's necessary to run commands and tasks of sensors reading with no delay.
  - T
  - F
- 3- Very high values of the proportional gain cause controller to work like an on/off open source controller with an oscillating response.
  - T
  - F
- 4- Remove duplicated detection windows of the same object we use ..... .
  - Non-maxima suppression
  - Post prepare
  - Overlap ratio
  - Thresholding
- 5- In machine learning resting phase, it estimates function by minimizing the predicted error on the input set.
  - T
  - F
- 6- Made by cavity and conductive free mass ..... .
  - Tilt
- 7- Feedback control system works on minimizing differences current state and goal state of system called ..... .
  - Error
- 8- SVM tries to ..... between positive and negative training examples.
  - Maximize the support vector
  - Maximize the margin
  - Maximize the height
  - Maximize the quadratic optimization
- 9- Color based appearance description can be sensitive to illumination.
  - T
  - F
- 10- ..... can be used for indoor localization (i.e. determining position).
  - WiFi fingerprinting
  - GPS
  - ADC
  - DAC

## NLP

We evaluate the accuracy of any tagger using tagged data.

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- ☐ True
- ☒ False

Recall represents the fraction of relevant documents that were retrieved.

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- ☒ True
- ☐ False

To solve the problem of zero probability in N-gram, we use \_\_\_\_\_.

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- ☐ Statistics
- ☐ Perplexity
- ☒ Smoothing
- ☐ Sensitivity

How many end tokens </s> are added in Bi-gram?

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- ☐ 2
- ☒ 1
- ☐ 3
- ☐ 4

How many start tokens <s> are added in 5-gram?

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- ☐ 2
- ☐ 1
- ☐ 3
- ☒ 4

N-gram approach is used as a rule-based POS tagging method.

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- ☒ F
- ☐ T

Maximum Entropy tagging is a stochastic tagging approach

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- ☒ False
- ☐ True

Only searches for trees that can be answers.

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- ☒ Top down parsing
- ☐ Bottom-up Parsing

Jelinek-Mercer performs better on large training sets.

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- ☐ True
- ☒ False

## Distributed systems

..... is a modular unit with well-defined required and provided interfaces that is replaceable within its environment.

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- ☐ Architectural Style
- ☒ Component
- ☐ Software Architecture
- ☐ Connector

..... is the activity of restoring the state of an object or a set of objects from their serialized form.

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- ☒ Deserialization
- ☐ Marshalling
- ☐ Serialization
- ☐ Unmarshalling

Multi-tiered client server architectures are example for

.....

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- ☒ Vertical Distribution
- ☐ Peer-to-peer
- ☐ Horizontal Distribution
- ☐ Diagonal Distribution

The users of distributed systems think they are dealing with a single system

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- ☐ False
- ☒ True

UDP communication protocol offers.....

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- ☐ Flow control
- ☒ fast communication
- ☐ Ordered delivery
- ☐ Delivery guarantee

In RPC model, the ..... selects one of the server stub procedures according to the procedure identifier in the request message.

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- ☒ dispatcher
- ☐ server stub procedure
- ☐ client stub procedure
- ☐ service procedure

..... enable local object to invoke methods of an object residing on a remote computer.

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- ☐ RPC
- ☒ RMI
- ☐ TCP
- ☐ UDP



A whole nested transaction should exhibit ..... properties.

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- ☐ MOM
- ☐ DHT
- ☐ RFID
- ☒ ACID

Which of the following is incorrect about request-reply protocols based communication?

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- ☐ Acknowledgments are not required
- ☐ Designed to support client-server communication
- ☐ Flow control is not needed
- ☒ Designed to support peer-to-peer communication

..... means the sender and receivers need not to exist at the same time to communicate

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- ☐ Space Uncoupling
- ☐ Time Coupling
- ☒ Time Uncoupling
- ☐ Space Coupling

Which of the following is True about UDP ?  
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- ☐ Reliable
- ☒ Message oriented
- ☐ Connection-Oriented
- ☐ Congestion control

RMI allows an object to invoke methods on an object running in another machine?  
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- ☒ True
- ☐ False

The class who receives the notification is called.....  
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- ☐ All of the above
- ☐ Publisher
- ☒ Subscriber
- ☐ None of the above