How Google Does Machine Learning

Quiz Question Answers

Module 1: Introduction to Course

Introduction to ML on Google Cloud

Question 1: Which of the following are correct about Google?
A: Google applies machine learning in pretty much all Google products.
Feedback: This answer is partially correct, please review the module again.

B: Google has produced over 4,000 TensorFlow machine learning models.
Feedback: This answer is partially correct, please review the module again.

C. Google uses machine learning to provide users personalized service.
Feedback: This answer is partially correct, please review the module again.

*D: All of the above.
Feedback: This answer is correct.

Question 2: Which of the following Google services depend on machine learning?
A: Photos
Feedback: This answer is partially correct, please review the module again.

B: Youtube
Feedback: This answer is partially correct, please review the module again.

C: Gmail
Feedback: This answer is partially correct, please review the module again.

*D: All the above
Feedback: This answer is correct

Question 3: How are predictions served to decision makers?
A: Using Notebooks
Feedback: This answer is partially correct, please review the module again.

B: Using applications
Feedback: This answer is partially correct, please review the module again.

*C: Both A and B
Feedback: This answer is correct

D: None of the above
Feedback: This answer is incorrect, please review the module again.

Question 4: The key feature of Dataflow is which of the following?

*A: Cloud Dataflow helps us treat batch and stream data in the same way.
Feedback: This answer is correct

B: Cloud Dataflow helps us treat batch and stream data in a different way.
Feedback: This answer is incorrect, please review the module again.

C: Both A and B
Feedback: This answer is incorrect, please review the module again.

D: None of the above
Feedback: This answer is incorrect, please review the module again.

Question 5: What are the advantages of building data pipelines on Google Cloud?

A: Scalability
Feedback: This answer is partially correct, please review the module again.

B: Reliability
Feedback: This answer is partially correct, please review the module again.

C: Sheer engineering prowess
Feedback: This answer is partially correct, please review the module again.

*D: All the above
Feedback: This answer is correct.

Module 2: What it means to be AI First

Introduction to AI First

Question 1: The main stages of Machine Learning models are?
A: Train an ML model
Feedback: This answer is partially correct, please review the module again.

B: Predict with a trained model
Feedback: This answer is partially correct, please review the module again.

*C: Both A and B
Feedback: This answer is correct.

D: None of the above.
Feedback: This answer is incorrect, please review the module again.

Question 2: What are common mathematical models used in Machine Learning?
A: Linear methods
Feedback: This answer is partially correct, please review the module again.

B: Decision trees
Feedback: This answer is partially correct, please review the module again.

C: Radial basis functions
Feedback: This answer is partially correct, please review the module again.

*D: All the above
Feedback: This answer is correct.

Question 3: In the past, why did neural networks models have just a few layers?
A: Neural networks with lots of layers takes a lot of computing power.
Feedback: This answer is partially correct, please review the module again.

B: As you add more layers, there are more weights to adjust, and you need lots more data available to make those adjustments.
Feedback: This answer is partially correct, please review the module again.

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C: If you just add layers, you may run into issues, for example some of the layers may become all zero or blow up and become NAM (not a number).
Feedback: This answer is partially correct, please review the module again.

*D: All of the above
Feedback: This answer is correct.

Question 4: What are the models included in Google Translate app?
A: Find the sign
Feedback: This answer is partially correct, please review the module again.

B: Read the sign
Feedback: This answer is partially correct, please review the module again.

C: Detect the language
Feedback: This answer is partially correct, please review the module again.

*D: All of the above
Feedback: This answer is correct.

Question 5: What is the smart reply feature of Inbox and Gmail?
*A: The email program suggests three possible responses to received emails.
Feedback: This answer is correct

B: The email program automatically writes and sends responses based on past conversations.
Feedback: This answer is incorrect, please review the module again.

C: When you hit **Send**, the email program automatically holds the message and then sends it when the program determines the receiver is most likely to read the message.
Feedback: This answer is incorrect, please review the module again.

D: As you respond to a message, the email program suggests words to use based on how smart the receiver is.
Feedback: This answer is incorrect, please review the module again.

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Pre-trained ML APIs

Question 1: Which of the following is NOT a pre-trained Machine Learning model on Google Cloud?

A: Vision API
Feedback: This answer is incorrect, please review the module again.

B: Speech API
Feedback: This answer is incorrect, please review the module again.

*C: Tensorflow
Feedback: This answer is correct.

D: Translation API
Feedback: This answer is incorrect, please review the module again.

Question 2: Which API lets you perform complex image detection with a single REST API request?

A: Cloud Speech API
Feedback: This answer is incorrect, please review the module again.

B: Cloud Translation API
Feedback: This answer is incorrect, please review the module again.

*C: Cloud Vision API
Feedback: This answer is correct.

D: None the above
Feedback: This answer is incorrect, please review the module again.

Question 3: Which API lets you understand your video's entities at shot, frame, or video level?

A: Translation API
Feedback: This answer is incorrect, please review the module again.

*B: Cloud Video Intelligence API
Feedback: This answer is correct

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C: Cloud Speech API
Feedback: This answer is incorrect, please review the module again.

D: None the above
Feedback: This answer is incorrect, please review the module again.

Question 4: What are the benefits of cloud Speech-to-Text API?
A: Let's you perform speech-to-text transcription
Feedback: This answer is partially correct, please review the module again.

B: Supports speech timestamps
Feedback: This answer is partially correct, please review the module again.

C: Supports profanity filtering
Feedback: This answer is partially correct, please review the module again.

*D: All of the above
Feedback: This answer is correct

Question 5: What type of actions can be done by Cloud Natural Language API?
*A: Lets you extract entities from your text
Feedback: This answer is correct

B: Gives you the overall sentiment of a sentence or a text document
Feedback: This answer is incorrect, please review the module again.

C: Gives you the font and heading level used in a sentence or test document
Feedback: This answer is incorrect, please review the module again.

D: None of the above
Feedback: This answer is incorrect, please review the module again.

All about data

Question 1: What would you use to replace user input by machine learning?
*A: Pre-trained models.
Feedback: This answer is correct.

B: Neural networks.
Feedback: This answer is incorrect, please review the module again.

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C: Labeled data.
Feedback: This answer is incorrect, please review the module again.

D: All of the above.
Feedback: This answer is incorrect, please review the module again.

Question 2: Which of the following refers to the type of data used in ML models?
A: Labeled data
Feedback: This answer is partially correct, please review the module again.

B: Unlabeled data
Feedback: This answer is partially correct, please review the module again.

C: Flagged data
Feedback: This answer is not correct, please review the module again.

*D: Both A and B
Feedback: This answer is correct.

Question 3: Which of the following are best practices for Data preparation?
A: Avoid training-serving skew
Feedback: This answer is partially correct, please review the module again.

B: Avoid target leakage
Feedback: This answer is partially correct, please review the module again.

C: Provide a time signal
Feedback: This answer is partially correct, please review the module again.

*D: All of the above
Feedback: This answer is correct

Question 4: Which of the following is not part of the ML training phase?
*A: Connecting Neural Networks
Feedback: This answer is correct.

B: Evaluating the models
Feedback: This answer is incorrect, please review the module again.

C: Create the models
Feedback: This answer is incorrect, please review the module again.

D: Data management
Feedback: This answer is incorrect, please review the module again.

Question 5: What's the most efficient way to transcribe speech?
*A: Using a speech API.
Feedback: This answer is correct.

B: Collecting audio data, training it, and then predicting with it.
Feedback: This answer is incorrect, please review the module again.

C: Using a Dictionary website for partial transcription, then using ML to fill in what's missing
Feedback: This answer is incorrect, please review the module again.

D: All of the above
Feedback: This answer is incorrect, please review the module again.

Module 3: How Google Does ML

Transform your business

Question 1: Which of the following scenarios may require a supervised learning model to be retrained as a new model?

A: The model was trained on unlabeled data and we now wish to train it on labeled data.
Feedback: Sorry, try again. Supervised learning is done on labeled data. If you need help, review the Two Stages of ML lecture video for the correct answer.

B: The model was trained on labeled data and we now wish to train it more labeled to the data.
Feedback: Sorry, try again. We can train a model on more data (that is in the same format) without having to retrain the model. If you need help, review the Two Stages of ML lecture video for the correct answer.

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C: The model was trained on unlabeled data and we now wish to add labels to the data.
Feedback: Sorry, try again. This answer is incorrect because supervised learning models are trained on labeled data. If you need help, review the Two Stages of ML lecture video for the correct answer.

*D: The model was trained on labeled data and we now wish to correct the labels of the data.
Feedback: Correct! Supervised learning is done on labeled data, so we can discount all the answers that mention unlabeled data. We can also discount #2 - if a model is trained on labeled data, we can just train it on more data.

If a model is trained on data that is incorrect, we need to retrain the model as if it were a new model. If you need help, review the Two Stages of ML lecture video for the correct answer.

Question 2: A team is preparing to develop and deploy an ML model for use on a shopping website. They have collected a little data to train the model. The team plans on gathering more data once the model is developed. Now they are ready for the next phase, training.

Which of these scenarios will most likely lead to a successful deployment of the ML model?

A: The team should take time to focus on training the perfect model, because deployment is quick and easy.
Feedback: Sorry, try again. This option might be good, except the team does not have a lot of data. Review the "Two stages of ML" video if you need help.

*B: The team should take time to gather more data because the quality and architecture of the model are affected by the amount of data
Feedback: Correct! The team should take time to gather more data, because with more data, it is possible to create a simpler ML model that performs better. Review the "Two stages of ML" video if you need help.

C: The team should focus on deployment of the model. The model can be weak to start, then be improved when more user data has been accumulated.
Feedback: Sorry, try again. A better model requires a lot of data, which the team does not have. A lot of data can lead to insights in creating the model. Also, deploying a weak model may result in a poor user experience, leading to a loss of users.

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Question 3: An online shopping company has a team of customer representatives read emails from customers. Depending upon the content of the email, the representative routes the email to the appropriate department.

The company would like to alleviate the customer representatives task by automating it. Your team has been asked to create an app to read customer emails and determine which department should handle it.

Which of these would be a good way to structure the app (choose all that apply)?
*A: The team should develop one all-encompassing model that will scan the email content, categorize the content, and determine the appropriate team to receive the email.
Feedback: Yes, there are times when this is the best way to structure the app.

*B: The team should develop several models, one for each task. They should develop these models from the ground up and not use pre-existing models, to ensure the models are properly trained.
Feedback: Yes, there are times when this is the best way to structure the app.

*C: Automatic feature extraction
Feedback: Yes, there are times when this is the best way to structure the app.

How Google Does ML

Question 1: Which of the following networks is used in identifying faces, objects, and traffic signs?
*A: Convolutional Neural Networks
Feedback: This answer is correct.

B: Deep Neural Networks
Feedback: This answer is incorrect, please review the module again.

C: Recurrent Neural Networks
Feedback: This answer is incorrect, please review the module again.

D: None of the above.
Feedback: This answer is incorrect, please review the module again.

Question 2: Which of the following statement is true about ML systems?
A: It generates a lot of value for the organization, for customers and for end users.
Feedback: This answer is partially correct, please review the module again.

B: Almost every single one has a team of people reviewing the algorithms, reviewing their responses and doing random sub-samples.
Feedback: This answer is partially correct, please review the module again.

*C: Both A and B
Feedback: This answer is correct.

D: None of the above
Feedback: This answer is incorrect, please review the module again.

Question 3: Which of the following are facets that differentiate deep learning networks in multilayer networks?
A: More complex ways of connecting layers
Feedback: This answer is partially correct, please review the module again.

B: Cambrian explosion of computing power to train
Feedback: This answer is partially correct, please review the module again.

C: Automatic feature extraction
Feedback: This answer is partially correct, please review the module again.

*D: All of the above
Feedback: This answer is correct

Question 4: Which of the following statement is incorrect?
A: Machine learning performs some core and numerical tasks
Feedback: This answer is incorrect, please review the module again.

B: Machine learning doesn't serve that task in a website.
Feedback: This answer is incorrect, please review the module again.

C: Machine learning doesn't have unit tests of its own.
Feedback: This answer is incorrect, please review the module again.

*D: None of the above
Feedback: This answer is correct

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Module 4: Inclusive ML

Inclusive ML

Question 1: Which of the following are correct about Facets?
A: It's an open source data visualization
Feedback: This answer is partially correct, please review the module again.

B: Facets was developed at Google and is one of the ways in which you can make machine learning models more inclusive
Feedback: This answer is partially correct, please review the module again.

*C: Both A and B
Feedback: This answer is correct.

D: None of the above.
Feedback: This answer is incorrect, please review the module again.

Question 2: The things you incorrectly do not predict, things you exclude when instead it should have been included is called?
*A: False negatives
Feedback: This answer is correct

B: False positives
Feedback: This answer is incorrect, please review the module again.

C: True positives
Feedback: This answer is incorrect, please review the module again.

D: None of the above
Feedback: This answer is incorrect, please review the module again.

Question 3: Which of the following help identify areas where a machine learning system could be more inclusive?
A: Confusion matrix
Feedback: This answer is incorrect, please review the module again.

*B: Evaluation metrics
Feedback: This answer is correct

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C: Both A and B
Feedback: This answer is incorrect, please review the module again.

D: None of the above
Feedback: This answer is incorrect, please review the module again.

Question 4; Which approach is followed to achieve a better performance across subgroups?
*A: Equality of opportunity
Feedback: This answer is correct

B: Evaluation metrics
Feedback: This answer is incorrect, please review the module again.

C: Confusion matrix
Feedback: This answer is incorrect, please review the module again.

D: None of the above
Feedback: This answer is incorrect, please review the module again.

Question 5: Which of the following are the parts of Facets?
A: Overview
Feedback: This answer is partially correct, please review the module again.

B: Dive
Feedback: This answer is partially correct, please review the module again.

*C: Both A and B
Feedback: This answer is correct.

D: None of the above.
Feedback: This answer is incorrect, please review the module again.

Question 6: The confusion matrix helps which of the following?
A: Understanding inclusion and how to introduce inclusion across different subgroups within your data
Feedback: This answer is partially correct, please review the module again.

B: Evaluating performance in machine learning
Feedback: This answer is partially correct, please review the module again.

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*C: Both A and B
Feedback: This answer is correct.

D: None of the above.
Feedback: This answer is incorrect, please review the module again.

Question 7: What do you call the things you incorrectly predicted, and things you include that aren't in the label and should have instead been excluded?
A: False negatives
Feedback: This answer is incorrect, please review the module again.

*B: False positives
Feedback: This answer is correct

C: True positives
Feedback: This answer is incorrect, please review the module again.

D: None of the above
Feedback: This answer is incorrect, please review the module again.

Module 5: Python Notebooks in the Cloud

Python Notebooks in the Cloud

Question 1: You are going to develop an ML model. You are in Canada and the rest of the team is in Mexico.

Your team wants to use Google Cloud with Python Notebook. Which of the following statements support your decision.

A: Cloud AI Platform Notebook runs on virtual machines.
Feedback: This answer is incorrect, please review the module again.

*B: Cloud AI Platform Notebook is hosted in the cloud.
Feedback: Good job. Notebooks hosted in the cloud will make global collaboration much easier.

C: Cloud AI Platform Notebook contains both markup and output.
Feedback: This answer is incorrect, please review the module again.

Question 2: Your team has decided to use the Compute Engine, Cloud Storage, and Cloud AI Platform Notebook for ML model development

Which of the following statements are applicable to your situation (choose all that apply)

A: You must choose your virtual machine configuration carefully, changing it later will be difficult.
Feedback: This should not be selected, changing configuration can be easily done at any time.

*B: Every member of the team, regardless of their location, can directly read data fromCloud Storage.
Feedback: Correct - this is true!

*C: Latency of data access can be a concern, so carefully select the aone for data storage.
Feedback: Correct - this is true!

Question 3: Complete this sentence by filling in each blank with a single word:
The third wave of cloud is _____ so you can focus on data _____ instead of infrastructure.

Word bank: insights, hardware, infrastructure, scalable, cloud-first, serverless, machine learning, Google Cloud, iPython Notebooks

A: iPython Notebooks, hardware
Feedback: This answer is incorrect, please review the module again.

B: Insights, Google Cloud
Feedback: This answer is incorrect, please review the module again.

C: Scalable, hardware
Feedback: This answer is incorrect, please review the module again.

*D: Serverless, insights
Feedback: This answer is correct.

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