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## Exam Professional Machine Learning Engineer All Questions

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### EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 92 DISCUSSIO..

Actual exam question from Google's Professional Machine Learning Engineer

Question #: 92

Topic #: 1

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You work as an ML engineer at a social media company, and you are developing a visual filter for users' profile photos. This requires you to train an ML model to detect bounding boxes around human faces. You want to use this filter in your company's iOS-based mobile phone application. You want to minimize code development and want the model to be optimized for inference on mobile phones. What should you do?

- A. Train a model using AutoML Vision and use the "export for Core ML" option.
- B. Train a model using AutoML Vision and use the "export for Coral" option.
- C. Train a model using AutoML Vision and use the "export for TensorFlow.js" option.
- D. Train a custom TensorFlow model and convert it to TensorFlow Lite (TFLite).


[Show Suggested Answer](#)

by  ares81 at Dec. 14, 2022, 1:55 p.m.

## Comments

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 **pshemol** Highly Voted 1 year, 10 months ago

**Selected Answer: A**

<https://cloud.google.com/vision/automl/docs/export-edge>

Core ML -> iOS and macOS

Coral -> Edge TPU-based device

TensorFlow.js -> web

   upvoted 14 times

 **maukaba** 1 year ago

Updated Vertex AI link: <https://cloud.google.com/vertex-ai/docs/export/export-edge-model>

Trained AutoML Edge image classification models can be exported in the following formats:

TF Lite - to run your model on edge or mobile devices.

Edge TPU TF Lite - to run your model on Edge TPU devices.

Container - to run on a Docker container.

Core ML - to run your model on iOS and macOS devices.

Tensorflow.js - to run your model in the browser and in Node.js.


   upvoted 5 times

 **M25** Most Recent 1 year, 6 months ago

**Selected Answer: A**

Went with A

   upvoted 1 times

 **TNT87** 1 year, 6 months ago

<https://developer.apple.com/documentation/coreml>


Answer A

   upvoted 1 times

 **TNT87** 1 year, 6 months ago

<https://cloud.google.com/vertex-ai/docs/export/export-edge-model#export>

   upvoted 1 times

 **shankalman717** 1 year, 8 months ago

**Selected Answer: B**


AutoML Vision is a service provided by Google Cloud that enables developers to train and deploy machine learning models for image recognition tasks, such as detecting bounding boxes around human faces. The "export for Coral" option generates a TFLite model that is optimized for running on Coral, a hardware platform specifically designed for edge computing, including mobile devices. The TFLite model is also compatible with iOS-based mobile phone applications, making it easy to integrate into the company's app.

   upvoted 1 times

 **tavva\_prudhvi** 1 year, 7 months ago

While Coral can be used to optimize machine learning models for inference on edge devices, it's not the best option for an iOS-based mobile phone application.

   upvoted 1 times

 **shankalman717** 1 year, 8 months ago

**Selected Answer: B**

Option A, using AutoML Vision and exporting for Core ML, is also a viable option. Core ML is Apple's machine learning framework that is optimized for iOS-based devices. However, using this option would require more development effort to integrate the Core ML model into the app.

Option C, using AutoML Vision and exporting for TensorFlow.js, is not the best option for this scenario since it is optimized for running on web browsers, not mobile devices.

Option D, training a custom TensorFlow model and converting it to TFLite, would require significant development effort and time compared to using AutoML Vision. AutoML Vision provides a simple and efficient way to train and deploy machine learning models without requiring expertise in machine learning.

   upvoted 1 times

 **tavva\_prudhvi** 1 year, 7 months ago

Excellent reasoning for C,D but Core ML is Apple's machine learning framework that is optimized for iOS-based devices, and exporting the model to Core ML format can help minimize inference time on mobile devices.

   upvoted 1 times

 **enghabeth** 1 year, 9 months ago

**Selected Answer: D**

<https://cloud.google.com/vertex-ai/docs/export/export-edge-model>

<https://www.tensorflow.org/lite>



<https://medium.com/the-ai-team/step-into-on-device-inference-with-tensorflow-lite-a47242ba9130>

   upvoted 1 times

  **tavva\_prudhvi** 1 year, 7 months ago

Its wrong, While TFLite is a mobile-optimized version of TensorFlow, it requires more code development than using AutoML Vision and exporting for Core ML. Therefore, it's not the best option for minimizing code development time.



   upvoted 1 times

  **ares81** 1 year, 10 months ago

**Selected Answer: A**



I correct myself: it's A!

   upvoted 1 times

  **egdiaa** 1 year, 10 months ago

A indeed as described here: <https://cloud.google.com/vision/automl/docs/export-edge>

   upvoted 1 times

  **hiromi** 1 year, 10 months ago

**Selected Answer: A**

A

"You want to minimize code development" -> AutoML

- <https://cloud.google.com/vision/automl/docs/tflite-coreml-ios-tutorial>

- <https://cloud.google.com/vertex-ai/docs/training-overview#image>



   upvoted 2 times

  **mil\_spyro** 1 year, 10 months ago

**Selected Answer: D**

TensorFlow Lite is a lightweight version of TensorFlow that is optimized for mobile and embedded devices, making it an ideal choice for use in an iOS-based mobile phone application.



   upvoted 2 times

  **ares81** 1 year, 10 months ago

**Selected Answer: D**

I find no answer is 100% right, but D seems closer to the truth.

   upvoted 1 times

  **ares81** 1 year, 10 months ago

It's A.

   upvoted 1 times

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