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Exam Professional Machine Learning Engineer All Questions

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EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 196 DISCUSSI...

Actual exam question from Google's Professional Machine Learning Engineer

Question #: 196

Topic #: 1

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You work for a company that captures live video footage of checkout areas in their retail stores. You need to use the live video footage to build a model to detect the number of customers waiting for service in near real time. You want to implement a solution quickly and with minimal effort. How should you build the model?

- A. Use the Vertex AI Vision Occupancy Analytics model.
- B. Use the Vertex AI Vision Person/vehicle detector model.
- C. Train an AutoML object detection model on an annotated dataset by using Vertex AutoML.
- D. Train a Seq2Seq+ object detection model on an annotated dataset by using Vertex AutoML.

Show Suggested Answer

by [winston9](#) at Jan. 10, 2024, 5:23 p.m.

Comments

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[tardigradum](#) 2 months, 1 week ago

Selected Answer: A

It makes sense to use Vertex AI Vision Occupancy to reduce the effort of obtaining a model that identifies the number of people in a video, although I am hesitant about the fact that it says 'BUILD a model' and strictly speaking, no model is actually built with that option.

   upvoted 1 times



  **Prakzz** 3 months, 3 weeks ago

Selected Answer: B

<https://console.cloud.google.com/vertex-ai/publishers/google/model-garden/vehicle-detector>

Occupancy analytics has other features too like zone detection, dwell time, and more, which is not needed in this scenario.



   upvoted 1 times

  **fitri001** 6 months, 1 week ago

Selected Answer: A

A. Use the Vertex AI Vision Occupancy Analytics model: This is a pre-built model specifically designed for analyzing occupancy in videos. It's ideal for this scenario as it requires minimal configuration and can likely be deployed quickly.

   upvoted 4 times

  **fitri001** 6 months, 1 week ago

C. Train an AutoML object detection model: While this could be a good solution in the long run, training a custom model requires creating an annotated dataset and takes time.

D. Seq2Seq+ object detection model: This is an overly complex approach for this task. Seq2Seq models are used for sequence-to-sequence prediction tasks and are not necessary here.

   upvoted 1 times

  **guilhermebutzke** 8 months, 1 week ago

Selected Answer: A

My Answer: A:

Vertex AI Vision Occupancy Analytics is a pre-trained model specifically designed to count people in live video streams. This removes the need for expensive and time-consuming data labeling and training, making it ideal for quick implementation.

****Vertex AI Vision Person/Vehicle Detector model detects individual people and vehicles, not specifically focusing on occupancy counting. It would require further processing to estimate the number of waiting customers. Option C and D requires labeling data and training, which adds effort and time.

<https://cloud.google.com/vision-ai/docs/overview>

   upvoted 4 times

  **ddogg** 8 months, 3 weeks ago

Selected Answer: A

A. Use the Vertex AI Vision Occupancy Analytics model.

Here's why:

Pre-trained and optimized: Occupancy Analytics is a pre-trained and optimized model specifically designed for counting people in video footage, aligning perfectly with your task. This eliminates the need for extensive data collection, annotation, and training, saving time and effort.

Near real-time performance: The model is designed for low latency and near real-time inference, providing results quickly with minimal delay, important for live video analysis.

Minimal configuration: Compared to training your own model, this option requires minimal configuration within the Vertex AI console, allowing for a quicker setup and deployment.

   upvoted 2 times

  **b1a8fae** 9 months, 1 week ago

Selected Answer: B

All you need is counting the number of customers in the video stream. I would say no need to have the extra functionalities of occupancy analytics, person/vehicle is enough for this use case. <https://cloud.google.com/vision-ai/docs/person-vehicle-model>

   upvoted 1 times

  **winston9** 9 months, 2 weeks ago

Selected Answer: A

<https://codelabs.developers.google.com/vertex-ai-vision-queue-detection#0>

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