EXAM PROFESSIONAL MACHINE LEARNING ENGINEER TOPIC 1 QUESTION 221 DISCUSSI...

Actual exam question from Google's Professional Machine Learning Engineer
Question #: 221
Topic #: 1
[All Professional Machine Learning Engineer Questions]

You work at a leading healthcare firm developing state-of-the-art algorithms for various use cases. You have unstructured textual data with custom labels. You need to extract and classify various medical phrases with these labels. What should you do?

A. Use the Healthcare Natural Language API to extract medical entities

B. Use a BERT-based model to fine-tune a medical entity extraction model

C. Use AutoML Entity Extraction to train a medical entity extraction model

D. Use TensorFlow to build a custom medical entity extraction model

Show Suggested Answer

by pikachu007 at *Jan. 13, 2024, 6:21 a.m.*

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b1a8fae Highly Voted 9 months, 1 week ago

Selected Answer: C

C. "AutoML Entity Extraction for Healthcare allows you to create a custom entity extraction model trained using your own annotated medical text and using your own categories." https://cloud.google.com/healthcare-api/docs/concepts/nlp#choosing_between_the_and

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sonicclasps 8 months, 3 weeks ago

textbook use case as described in the link provided

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daidai75 8 months, 4 weeks ago

Full Agreed

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VinaoSilva Most Recent 3 months, 3 weeks ago

Selected Answer: C

"unstructured textual data with custom labels " = AutoML Entity Extraction

upvoted 1 times

fitri001 6 months, 1 week ago

Selected Answer: C

Pre-built Functionality: It's a pre-built and managed service within Vertex AI that streamlines the process of building custom entity extraction models. This can save you time and resources compared to building a model from scratch using TensorFlow (option D).
Customizable Labels: AutoML Entity Extraction allows you to define your custom labels for medical phrases, which aligns well with your specific needs.
Unstructured Text Support: It's designed to handle unstructured text data like your medical records.
Faster Experimentation: Compared to a custom BERT-based model (option B), AutoML Entity Extraction often allows for faster experimentation as it automates many hyperparameter tuning aspects.

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fitri001 6 months, 1 week ago

A. Healthcare Natural Language API: While this API can extract medical entities like diseases or medications, it might not support the level of customization you need for your specific medical phrases with custom labels.
B. BERT-based Model with Fine-tuning: Fine-tuning a BERT model can be effective, but it requires significant expertise in machine learning and natural language processing. AutoML Entity Extraction provides a more accessible and potentially faster approach for your use case.
D. TensorFlow for Custom Model: Building a custom model with TensorFlow offers maximum control, but it requires a high level of expertise and can be time-consuming, especially for a team that might not specialize in NLP.

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guilhermebutzke 8 months, 1 week ago

Selected Answer: B

My answer: B

Looking for “developing state-of-the-art algorithms for various use cases” in the question, I think the best approach is BERT-based model. AutoML Entity Extraction could be a approach for a quickstart, and Healthcare Natural Language API might not have your custom labels built-in, limiting its effectiveness. Tensorflow model can be time-consuming and require significant expertise

https://cloud.google.com/healthcare-api/docs/concepts/nlp#choosing_between_the_and

upvoted 2 times

Dagogi96 9 months ago

Selected Answer: A

A.- "The Healthcare Natural Language API parses unstructured medical text such as medical records or insurance claims. It then generates a structured data representation of the medical knowledge entities stored in these data sources for downstream analysis and automatio"

upvoted 3 times

pikachu007 9 months, 1 week ago

Selected Answer: B

A. Healthcare Natural Language API: While convenient, it lacks the customization capabilities for fine-tuning with custom labels, potentially limiting accuracy for your specific needs.
C. AutoML Entity Extraction: It's generally well-suited for common entity types, but its pre-defined label set might not accommodate the full range of medical entities and relationships you need to extract.
D. TensorFlow Custom Model: Building a model from scratch requires significant expertise, time, and resources, often less efficient than leveraging the power of pre-trained BERT models.

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