AI/ML Services Hands On Lab:

In these labs, we will explore building and exploring scalable, serverless, machine learning applications using the AI/ML services. A key advantage of these services is the ability to build powerful ML application *without needing to be an expert machine learning practitioner.*

The following are services that we will explore from the console. You can click on the hyperlinks to go to the relevant AI/ML Service.
(**note** that in order for the links to the services to work, you must be logged into an AWS account)

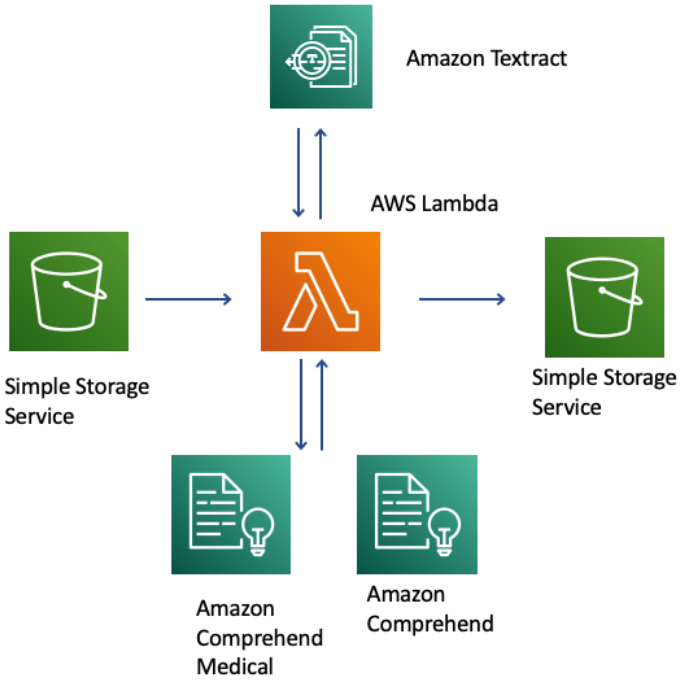
1. Go to the Amazon Comprehend Medical console. Confirm that there is already input text, and then click `Analyze`. Explore the output and tabs that are present.
    - **Optionally,** enter your own text to see Comprehend Medical's capabilities on your text.

2. Go to the Amazon Comprehend Console. Confirm that there is already input text, and then click `Analyze`. Explore the output and tabs that are present.
    - Within the input text, enter the text "My name is Josh. J as in Jungle, O as in Orange, S as in Sushi, H as in Horace.". Click on the `PII` section to see the results.
    - Within the input text, enter the text "I am exceptionally happy with my physician". Click on the Sentiment section to see the result.

3. Go to the Amazon Textract Console. Confirm that there is already input document, and inspect the results.
    - Your Lab workshop comes with a file called `sample_patient_note.png`. Upload it Texttract by clicking and dragging it to the console (it will take Textract a few seconds to analyze it). Inspect the results.
        - **Optionally** download the results by clicking `Download results`. Unzip the file, and inspect the JSON and other files created.

4. Go to the Amazon Rekognition Console. Click on `Text in image`.
    - Your Lab workshop comes with a file called ` chest-xray.jpg`. Upload it to the console to process it. Inspect the results.

5. We will now deploy a simple application that combines some of the AI/ML services we have learned about. The architecture of this application is:



Please follow these instructions to deploy and test the workshop:

- Go to the AWS CloudFormation Console. Your Lab workshop comes with a file called `cfn_workshop_ai_ml_services.yaml`. Click `Upload a template file` and upload this file.
- Enter any Stack name you wish; **do not change the Parameters.** Keep clicking next until you are asked to confirm the creation of the template. Click the checkbox, and then click `Next`.
- The stack takes a few minutes to deploy. When it is done, go to `Outputs`. It will show 2 buckets that are created. Note the name of your InputBucket (e.g. ` my-stack-notificationbucket-12iwwe3f3cdmf`) and your ResultsBucket (e.g. ` my-stack-outputbucket-wdxyeyczf7wa`).
- Go to the Amazon S3 Console find your InputBucket. Your Lab Workshop comes with a file called `sample_patient_note.png`. Upload the document, wait a few seconds, and go to the ResultsBucket. Download and inspect the results.