

Screenshots depicting successful processing of different images

Activities Chromium Web Browser ene 11 17:41

Step Functions Management Console - Chromium

filterClassical x Step Functions x InputPath, Par x Deploy Python x project - Jupyter x Project: Build x T1 Gumayusi S x project/ x

us-east-1.console.aws.amazon.com/states/home?region=us-east-1#/v2/executions/details/arn:aws:states:us-east-1:927441871693:execution:imageClassificationForSconesUn...

aws Services Search [Alt+S]

Graph view Table view

Graph view Data flow simulator Export Layout

Start preprocessImage Classify FilterClassifications End

In progress Failed Caught error Canceled Succeeded

Events (17)

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preprocessImage
Lambda Logs

Input and output Details Definition Events

Advanced view Collapse all Expand all

Input Learn more

```
1 {
2   "image_data": "",
3   "s3_bucket": "sagemaker-us-east-1-927441871693",
4   "s3_key": "test/minibike_s_000055.png"
5 }
```

Output Learn more

```
1 {
2   "statusCode": 200,
3   "body": {
4     "image_data":
5     "iVBORw0AKGAAAMANSIhEhAAACAAAAACAYAAAB7oxPAAAAABHfCVOTCAoTF
```

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Step Functions Management Console - Chromium

filterClassical x Step Functions x InputPath, Par x Deploy Python x project - Jupyter x Project: Build x T1 Gumayusi S x project/ x

us-east-1.console.aws.amazon.com/states/home?region=us-east-1#/v2/executions/details/arn:aws:states:us-east-1:927441871693:execution:imageClassificationForSconesUn...

aws Services Search [Alt+S]

Graph view Table view

Graph view Data flow simulator Export Layout

Start preprocessImage Classify FilterClassifications End

In progress Failed Caught error Canceled Succeeded

Events (17)

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preprocessImage
Lambda Logs

Input and output Details Definition Events

Advanced view Collapse all Expand all

Input Learn more

```
1 {
2   "image_data": "",
3   "s3_bucket": "sagemaker-us-east-1-927441871693",
4   "s3_key": "test/bike_s_002009.png"
5 }
```

Output Learn more

```
1 {
2   "statusCode": 200,
3   "body": {
```

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Step Functions Management Console - Chromium

filterClassical x Step Functions x InputPath, Par x Deploy Python x project - Jupyter x Project: Build x T1 Gumayusi S x project/ x

us-east-1.console.aws.amazon.com/states/home?region=us-east-1#/v2/executions/details/arn:aws:states:us-east-1:927441871693:execution:imageClassificationForScon...

aws Services Search [Alt+S]

Graph view Table view

Graph view Data flow simulator Export Layout

Start preprocessImage Classify FilterClassifications End

In progress Failed Caught error Canceled Succeeded

Events (17)

preprocessImage Lambda Logs

Input and output Details Definition Events

Advanced view Collapse all Expand all

Input Learn more

```
1 {
2   "image_data": "",
3   "s3_bucket": "sagemaker-us-east-1-927441871693",
4   "s3_key": "test/motorcycle_s_000211.png"
5 }
```

Output Learn more

```
1 {
2   "statusCode": 200,
3   "body": {
```

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Step Functions Management Console - Chromium

Step Functions Management x

us-east-1.console.aws.amazon.com/states/home?region=us-east-1#/v2/executions/details/arn:aws:states:us-east-1:927441871693:execution:imageClassificationForScon...

aws Services Search [Alt+S]

Graph view Table view

Graph view Data flow simulator Export Layout

Start preprocessImage Classify FilterClassifications End

In progress Failed Caught error Canceled Succeeded

Events (17)

FilterClassifications Lambda Logs

Input and output Details Definition Events

Advanced view Collapse all Copied to clipboard

Input Learn more

```
1 {
2   "statusCode": 200,
3   "body": "{ \"image_data\":
4     \\\"iVBORw0KGgoAAAANSUgAAACAAAAAgCAYAAABzenr0AAAABHNCSVQICAgI
5     fAhkiAAAAAwSFlzAAAPYQAAAD2EBQD+naQAAC55JREFUWUFWL2HHDcw0f1b
6     +qeqneN3W31pYsybE9jmRnIesMDJwzMxcceAIu4EF4A26AK7jgcMdyOJCVSXIY
7     E0/GJnac2NZmyVq6W73XvhffJ/3nP/9d2t2+R6NS5vN/+Sc0Xj6LX16wGMLcTQ
8     ImwRUbvRWaSzcolVqE5pi87KLldUq5LM16hYff/8TxTUS4NsmkLA56c8wE0Gz
9     t0F1ZQ1Z1Xh7q0f/8IhnJ1d00k1yWoziGA6akAkjj9v7e6yudViMB8yLIZ0NjY
10    AGJaGwvraKFUrMUhXDMHF2NGWnt4ILXrdFdpLXU77F1yc00iyRqe7jmT4FPQC
11    ...
```

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Output of the final step (Filter):

```
{
  "statusCode": 200,
  "body": "{\"image_data\": <excluded>, \"s3_bucket\": \"sagemaker-us-east-1-927441871693\", \"s3_key\": \"test/motorcycle_s_000211.png\", \"inferences\": \"[0.0006055505364201963, 0.999394416809082]\"}"
}
```

TESTING (EXPECTED) FAILURES

To test that the workflow fails when the filter encounters a prediction with a confidence below the THRESHOLD level, I will change the THRESHOLD to 100%. The following images demonstrate what happens when the workflow executes with this THRESHOLD:

The screenshot displays the AWS Step Functions Management Console in a Chromium browser. The interface shows a workflow diagram on the left and execution details on the right. The workflow consists of the following steps: Start (yellow circle), preprocessImage (green rectangle), Classify (green rectangle), FilterClassifications (red rectangle), and End (yellow circle). The FilterClassifications step is highlighted in red, indicating a failure.

The right panel, titled "FilterClassifications", shows the "Input and output" tab. The input JSON is as follows:

```
{
  "image_data": "<excluded>",
  "s3_bucket": "sagemaker-us-east-1-927441871693",
  "s3_key": "test/safety_bike_s_000541.png",
  "inferences": "[0.00035944630508311093, 0.9996405839920044]"
}
```

The "Reason" tab shows the error message:

```
{
  "errorType": "Runtime.ExitError",
  "errorMessage": "RequestId: 46696f22-00b4-4383-b922-0b5101d3d831 Error: Runtime exited with error: exit status 1"
}
```

The bottom of the console shows a list of events (16) and a status bar at the bottom with the text "© 2023, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences".

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Step Functions Management Console - Chromium

filterClassificatStep FunctionsInputPath, ParDeploy Pythonproject - JupytProject: BuildT1 Gumayusi Sproject/

us-east-1.console.aws.amazon.com/states/home?region=us-east-1#/v2/executions/details/arn:aws:states:us-east-1:927441871693:execution:imageClassificationForSconesUn...

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Graph viewTable view

Graph view

Data flow simulatorExportLayout

Start

preprocessImage

Classify

FilterClassifications

End

In progressFailedCaught errorCanceledSucceeded

FilterClassifications

LambdaLogs

Input and outputDetailsDefinitionEvents

```
/tEAAAAASUVORKSCYII=\", \"s3_bucket\": \"sagemaker-us-east-1-927441871693\", \"s3_key\": \"test/motorcycle_s_001679.png\", \"inferences\": \"[0.9999984502792358, 1.5215076700769714e-06]\"}
```

ReasonRuntime.ExitError

```
1 {
2   \"errorType\": \"Runtime.ExitError\",
3   \"errorMessage\": \"RequestId: b438f5a3-e7c1-413e-8cca-
4     caa438aff8fd Error: Runtime exited with error: exit status 1\"
5 }
```

Events (16)

Filter by properties or search by keywordFilter by a date and time range

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