

Name- Siddhesh Gatkal

Roll- MM20B019

Assignment - 6

Course- CS5830

Interface-

FastAPI 0.1.0 OAS 3.1
/openapi.json

default

POST /upload/ Create Upload File			⌵
Parameters			Try it out
No parameters			
Request body <small>required</small>			multipart/form-data ▾
<p>file <small>required</small></p> <p>string(binary)</p>			
Responses			
Code	Description	Links	
200	Successful Response	No links	

Report - Summary

My API currently processes 28x28 images, which aligns with the MNIST dataset format. The next figure illustrates the API's output for such images. To test the API with arbitrary images from MS Paint, we resized them to 28x28 pixels and ensured they had a black background, mirroring the MNIST format.

I conducted 10 experiments with various digits, achieving successful predictions for the following cases-

1. digits 8 - correctly classified
2. digits 3 - correctly classified
3. digits 9 - **incorrectly classified as 8**
4. digits 5 - correctly classified
5. digits 0 - correctly classified
6. digits 6 - correctly classified
7. digits 3 - correctly classified
8. digits 7 - correctly classified
9. digits 4 - correctly classified
10. digits 2 - correctly classified

Conclusion: We used a variety of MLflow commands during our investigation, including start run, autolog, mlflow.log_params, mlflow.log_metrics, and nested runs. The tracking and analysis of the experiments was made easier by these instructions. After comparing many models for MNIST classification, we found that Model 2 had a little higher overall test accuracy. We were also able to investigate the variation of metrics between tests with MLflow, which emphasizes its usefulness in streamlining and expediting model evaluation.

Refer below for references:

1.

8

Responses

Curl

```
curl -X 'POST' \
  'http://127.0.0.1:8000/upload/' \
  -H 'accept: application/json' \
  -H 'Content-Type: multipart/form-data' \
  -F 'file=@Screenshot 2024-04-29 224830.png;type=image/png'
```

Request URL

http://127.0.0.1:8000/upload/

Server response

Code	Details
200	<div><div>Response body</div><div><pre>{ "digit": "8" }</pre></div><div><div>Response headers</div><div><pre>content-length: 13 content-type: application/json date: Mon, 29 Apr 2024 17:11:39 GMT server: uvicorn</pre></div></div></div>

Responses

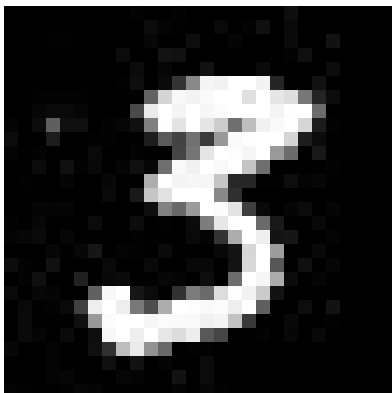
Code	Description	Links
200	Successful Response	No links

Media type

application/json

Controls Accept header.

2.



Responses

Curl

```
curl -X 'POST' \
  'http://127.0.0.1:8000/upload/' \
  -H 'accept: application/json' \
  -H 'Content-Type: multipart/form-data' \
  -F 'file@sample_13.jpg;type=image/jpeg'
```

Request URL

http://127.0.0.1:8000/upload/

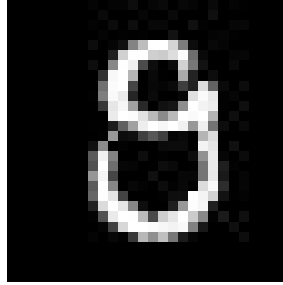
Server response

Code	Details
200	<div><div>Response body</div><div><pre>{ "digit": "3" }</pre></div><div><div>Response headers</div><div><pre>content-length: 13 content-type: application/json date: Mon, 29 Apr 2024 17:14:55 GMT server: uvicorn</pre></div></div></div>

Responses

Code	Description	Links
200	<div>Successful Response</div> <div><div>Media type</div><div>application/json</div></div> <div>Controls Accept header.</div>	No links

3.



Responses

Curl

```
curl -X 'POST' \
  'http://127.0.0.1:8000/upload/' \
  -H 'accept: application/json' \
  -H 'Content-Type: multipart/form-data' \
  -F 'file=@sample_14.jpg;type=image/jpeg'
```

Request URL

http://127.0.0.1:8000/upload/

Server response

Code	Details
200	<p>Response body</p> <pre>{ "digit": "8" }</pre> <p>Response headers</p> <pre>content-length: 13 content-type: application/json date: Mon, 29 Apr 2024 17:16:35 GMT server: uvicorn</pre>

Responses

Code	Description	Links
200	Successful Response	No links

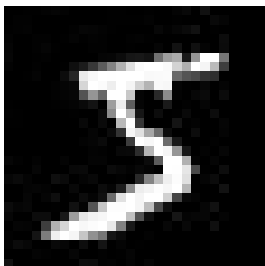
Media type

application/json

Controls Accept header.

Wrong classification, it is 9 but classified as 8

4.



Responses

Curl

```
curl -X 'POST' \
  'http://127.0.0.1:8000/upload/' \
  -H 'accept: application/json' \
  -H 'Content-Type: multipart/form-data' \
  -F 'file@sample_15.jpg;type=image/jpeg'
```

Request URL

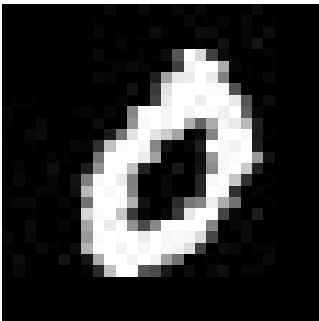
http://127.0.0.1:8000/upload/

Server response

Code	Details
200	<div><div>Response body</div><div><pre>{ "digit": "5" }</pre></div><div><div>Response headers</div><div><pre>content-length: 13 content-type: application/json date: Mon, 29 Apr 2024 17:28:01 GMT server: uvicorn</pre></div></div></div>

Responses

Code	Description	Links
200	<div>Successful Response</div> <div>Media type</div> <div>application/json</div>	No links



Responses

Curl

```
curl -X 'POST' \
  'http://127.0.0.1:8000/upload/' \
  -H 'accept: application/json' \
  -H 'Content-Type: multipart/form-data' \
  -F 'file=@sample_16.jpg;type=image/jpeg'
```

Request URL

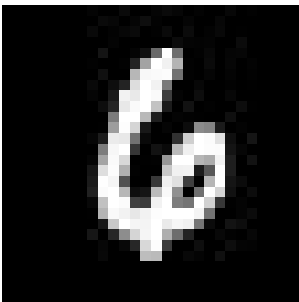
http://127.0.0.1:8000/upload/

Server response

Code	Details
200	<div><div>Response body</div><div><pre>{ "digit": "0" }</pre></div><div><div>Download</div></div></div> <div><div>Response headers</div><div><pre>content-length: 13 content-type: application/json date: Mon, 29 Apr 2024 17:21:56 GMT server: uvicorn</pre></div></div>

Responses

Code	Description	Links
200	<div>Successful Response</div> <div>Media type</div> <div>application/json</div> <div>Controls Accept header.</div>	No links



Curl

```
curl -X 'POST' \
  'http://127.0.0.1:8000/upload/' \
  -H 'accept: application/json' \
  -H 'Content-Type: multipart/form-data' \
  -F 'file=@sample_17.jpg;type=image/jpeg'
```

Request URL

http://127.0.0.1:8000/upload/

Server response

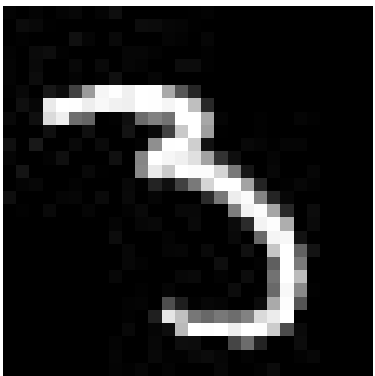
Code	Details
200	<div><div>Response body</div><div><pre>{ "digit": "6" }</pre></div><div><div>Response headers</div><div><pre>content-length: 13 content-type: application/json date: Mon, 29 Apr 2024 17:23:59 GMT server: uvicorn</pre></div></div></div>

Responses

Code	Description	Links
200	Successful Response	No links

Media type

application/json



Responses

Curl

```
curl -X 'POST' \
  'http://127.0.0.1:8000/upload/' \
  -H 'accept: application/json' \
  -H 'Content-Type: multipart/form-data' \
  -F 'file=@sample18.jpg;type=image/jpeg'
```

Request URL

http://127.0.0.1:8000/upload/

Server response

Code	Details
------	---------

200

Response body

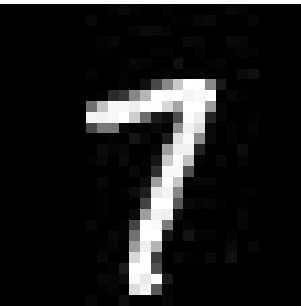
```
{
  "digit": "3"
}
```

Response headers

```
content-length: 13
content-type: application/json
date: Mon, 28 Apr 2024 17:26:18 GMT
server: uvicorn
```

Responses

Code	Description	Links
200	Successful Response	No links
Media type application/json		
Controls Accept header.		



Responses

Curl

```
curl -X 'POST' \
  'http://127.0.0.1:8000/upload/' \
  -H 'accept: application/json' \
  -H 'Content-Type: multipart/form-data' \
  -F 'file=@sample_19.jpg;type=image/jpeg'
```

Request URL

```
http://127.0.0.1:8000/upload/
```

Server response

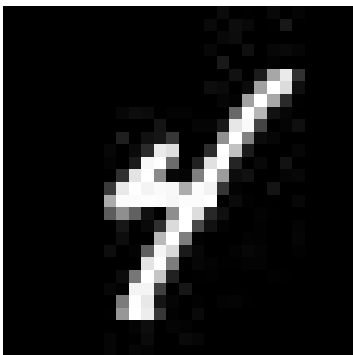
Code	Details
200	<div>Response body</div> <div><pre>{ "digit": "7" }</pre></div> <div>Response headers</div> <div><pre>content-length: 13 content-type: application/json date: Mon, 29 Apr 2024 17:30:16 GMT server: uvicorn</pre></div>

Responses

Code	Description	Links
200	Successful Response	No links

Media type

application/json



Responses

Curl

```
curl -X 'POST' \
  'http://127.0.0.1:8000/upload/' \
  -H 'accept: application/json' \
  -H 'Content-Type: multipart/form-data' \
  -F 'file=sample_20.jpg;type=image/jpeg'
```

Request URL

http://127.0.0.1:8000/upload/

Server response

Code	Details
------	---------

200

Response body

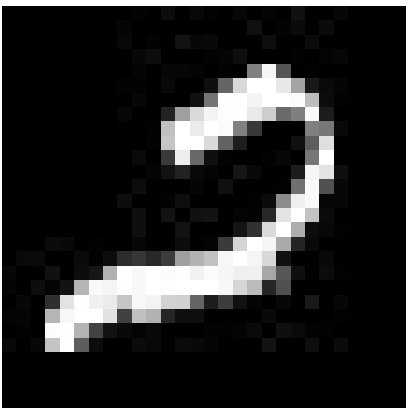
```
{
  "digit": "4"
}
```

Response headers

```
content-length: 13
content-type: application/json
date: Mon, 29 Apr 2024 17:32:42 GMT
server: uvicorn
```

Responses

Code	Description	Links
200	Successful Response	No links
Media type		
application/json		
Controls Accept header		



Responses

Curl

```
curl -X 'POST' \
  'http://127.0.0.1:8000/upload/' \
  -H 'accept: application/json' \
  -H 'Content-Type: multipart/form-data' \
  -F 'file=@sample_21.jpg;type=image/jpeg'
```

Request URL

http://127.0.0.1:8000/upload/

Server response

Code	Details
------	---------

200

Response body

```
{
  "digit": "2"
}
```

Download

Response headers

```
content-length: 13
content-type: application/json
date: Mon, 29 Apr 2024 17:34:25 GMT
server: uvicorn
```

Responses

Code	Description
------	-------------

200

Successful Response

Links

No links

Media type

application/json