Name: *Jimmy Gaspard Jean*

Internship Batch: *LISUM04*

Submission date: 2021-10-30

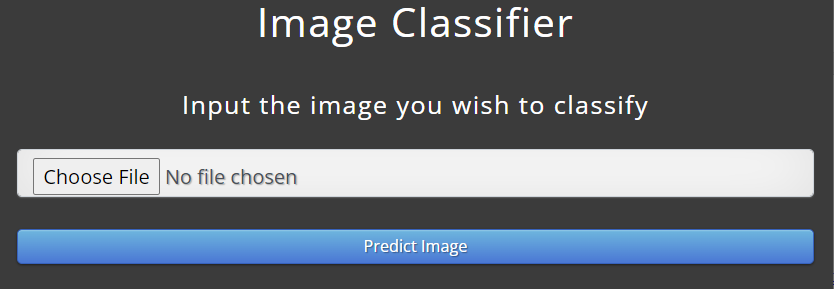
Submitted to: [DataGlacier-internship/lisum04-w4-Flask at master · jimmygjean/DataGlacier-internship (github.com)](https://github.com/jimmygjean/DataGlacier-internship/tree/master/lisum04-w4-Flask)

Cloud & API Deployment

1. The model can be accessed on the internet through this link: <https://img-classifier-demo.herokuapp.com/> .



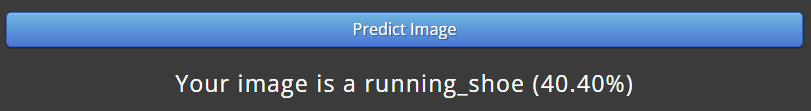
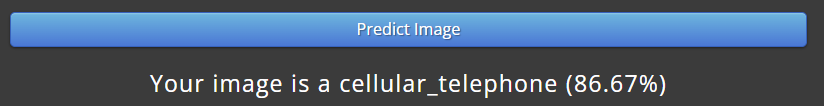
1. On the main page, the user is provided with an interface where he/she can upload an image.



1. The user might for example choose to upload a picture of this car or of this dog:

1. After submission, a deep learning model processes the image and makes a prediction of what the image could be (a MobileNet model was used). The result is then displayed to the user.

A snapshot of the main code is provided below. The complete code is available on GitHub. Feel free to interact with it.

Build Log during deployment (from Heroku)

-----> Building on the Heroku-20 stack

-----> Using buildpack: heroku/python

-----> Python app detected

-----> Using Python version specified in runtime.txt

! Python has released a security update! Please consider upgrading to python-3.8.12

Learn More: https://devcenter.heroku.com/articles/python-runtimes

-----> Requirements file has been changed, clearing cached dependencies

-----> Installing python-3.8.8

-----> Installing pip 20.2.4, setuptools 57.5.0 and wheel 0.37.0

-----> Installing SQLite3

-----> Installing requirements with pip

Collecting gunicorn==19.9.0

Downloading gunicorn-19.9.0-py2.py3-none-any.whl (112 kB)

Collecting flask==1.1.2

Downloading Flask-1.1.2-py2.py3-none-any.whl (94 kB)

Collecting tensorflow-cpu==2.3.0

Downloading tensorflow\_cpu-2.3.0-cp38-cp38-manylinux2010\_x86\_64.whl (137.4 MB)

Collecting keras==2.4.3

Downloading Keras-2.4.3-py2.py3-none-any.whl (36 kB)

Collecting pillow==8.3.1

Downloading Pillow-8.3.1-cp38-cp38-manylinux\_2\_5\_x86\_64.manylinux1\_x86\_64.whl (3.0 MB)

Collecting werkzeug==1.0.1

Downloading Werkzeug-1.0.1-py2.py3-none-any.whl (298 kB)

Collecting itsdangerous>=0.24

Downloading itsdangerous-2.0.1-py3-none-any.whl (18 kB)

Collecting click>=5.1

Downloading click-8.0.3-py3-none-any.whl (97 kB)

Collecting Jinja2>=2.10.1

Downloading Jinja2-3.0.2-py3-none-any.whl (133 kB)

Collecting numpy<1.19.0,>=1.16.0

Downloading numpy-1.18.5-cp38-cp38-manylinux1\_x86\_64.whl (20.6 MB)

Collecting six>=1.12.0

Downloading six-1.16.0-py2.py3-none-any.whl (11 kB)

Collecting termcolor>=1.1.0

Downloading termcolor-1.1.0.tar.gz (3.9 kB)

Collecting grpcio>=1.8.6

Downloading grpcio-1.41.1-cp38-cp38-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl (3.9 MB)

Collecting opt-einsum>=2.3.2

Downloading opt\_einsum-3.3.0-py3-none-any.whl (65 kB)

Collecting google-pasta>=0.1.8

Downloading google\_pasta-0.2.0-py3-none-any.whl (57 kB)

Collecting astunparse==1.6.3

Downloading astunparse-1.6.3-py2.py3-none-any.whl (12 kB)

Collecting wrapt>=1.11.1

Downloading wrapt-1.13.3-cp38-cp38-manylinux\_2\_5\_x86\_64.manylinux1\_x86\_64.manylinux\_2\_12\_x86\_64.manylinux2010\_x86\_64.whl (84 kB)

Collecting h5py<2.11.0,>=2.10.0

Downloading h5py-2.10.0-cp38-cp38-manylinux1\_x86\_64.whl (2.9 MB)

Collecting gast==0.3.3

Downloading gast-0.3.3-py2.py3-none-any.whl (9.7 kB)

Collecting absl-py>=0.7.0

Downloading absl\_py-0.15.0-py3-none-any.whl (132 kB)

Collecting protobuf>=3.9.2

Downloading protobuf-3.19.1-cp38-cp38-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl (1.1 MB)

Collecting tensorboard<3,>=2.3.0

Downloading tensorboard-2.7.0-py3-none-any.whl (5.8 MB)

Collecting keras-preprocessing<1.2,>=1.1.1

Downloading Keras\_Preprocessing-1.1.2-py2.py3-none-any.whl (42 kB)

Collecting tensorflow-estimator<2.4.0,>=2.3.0

Downloading tensorflow\_estimator-2.3.0-py2.py3-none-any.whl (459 kB)

Collecting scipy==1.4.1

Downloading scipy-1.4.1-cp38-cp38-manylinux1\_x86\_64.whl (26.0 MB)

Collecting pyyaml

Downloading PyYAML-6.0-cp38-cp38-manylinux\_2\_5\_x86\_64.manylinux1\_x86\_64.manylinux\_2\_12\_x86\_64.manylinux2010\_x86\_64.whl (701 kB)

Collecting MarkupSafe>=2.0

Downloading MarkupSafe-2.0.1-cp38-cp38-manylinux2010\_x86\_64.whl (30 kB)

Collecting requests<3,>=2.21.0

Downloading requests-2.26.0-py2.py3-none-any.whl (62 kB)

Collecting google-auth<3,>=1.6.3

Downloading google\_auth-2.3.2-py2.py3-none-any.whl (155 kB)

Collecting google-auth-oauthlib<0.5,>=0.4.1

Downloading google\_auth\_oauthlib-0.4.6-py2.py3-none-any.whl (18 kB)

Collecting markdown>=2.6.8

Downloading Markdown-3.3.4-py3-none-any.whl (97 kB)

Collecting tensorboard-data-server<0.7.0,>=0.6.0

Downloading tensorboard\_data\_server-0.6.1-py3-none-manylinux2010\_x86\_64.whl (4.9 MB)

Collecting tensorboard-plugin-wit>=1.6.0

Downloading tensorboard\_plugin\_wit-1.8.0-py3-none-any.whl (781 kB)

Collecting idna<4,>=2.5; python\_version >= "3"

Downloading idna-3.3-py3-none-any.whl (61 kB)

Collecting certifi>=2017.4.17

Downloading certifi-2021.10.8-py2.py3-none-any.whl (149 kB)

Collecting charset-normalizer~=2.0.0; python\_version >= "3"

Downloading charset\_normalizer-2.0.7-py3-none-any.whl (38 kB)

Collecting urllib3<1.27,>=1.21.1

Downloading urllib3-1.26.7-py2.py3-none-any.whl (138 kB)

Collecting cachetools<5.0,>=2.0.0

Downloading cachetools-4.2.4-py3-none-any.whl (10 kB)

Collecting rsa<5,>=3.1.4; python\_version >= "3.6"

Downloading rsa-4.7.2-py3-none-any.whl (34 kB)

Collecting pyasn1-modules>=0.2.1

Downloading pyasn1\_modules-0.2.8-py2.py3-none-any.whl (155 kB)

Collecting requests-oauthlib>=0.7.0

Downloading requests\_oauthlib-1.3.0-py2.py3-none-any.whl (23 kB)

Collecting pyasn1>=0.1.3

Downloading pyasn1-0.4.8-py2.py3-none-any.whl (77 kB)

Collecting oauthlib>=3.0.0

Downloading oauthlib-3.1.1-py2.py3-none-any.whl (146 kB)

Building wheels for collected packages: termcolor

Building wheel for termcolor (setup.py): started

Building wheel for termcolor (setup.py): finished with status 'done'

Created wheel for termcolor: filename=termcolor-1.1.0-py3-none-any.whl size=4847 sha256=c9b4608ca3e41d8df920bb22e76ee02724ef5232e45caa9cc1014b4c933feec8

Stored in directory: /tmp/pip-ephem-wheel-cache-yke7zeam/wheels/a0/16/9c/5473df82468f958445479c59e784896fa24f4a5fc024b0f501

Successfully built termcolor

Installing collected packages: gunicorn, itsdangerous, werkzeug, click, MarkupSafe, Jinja2, flask, numpy, six, termcolor, grpcio, opt-einsum, google-pasta, astunparse, wrapt, h5py, gast, absl-py, protobuf, idna, certifi, charset-normalizer, urllib3, requests, cachetools, pyasn1, rsa, pyasn1-modules, google-auth, oauthlib, requests-oauthlib, google-auth-oauthlib, markdown, tensorboard-data-server, tensorboard-plugin-wit, tensorboard, keras-preprocessing, tensorflow-estimator, scipy, tensorflow-cpu, pyyaml, keras, pillow

Successfully installed Jinja2-3.0.2 MarkupSafe-2.0.1 absl-py-0.15.0 astunparse-1.6.3 cachetools-4.2.4 certifi-2021.10.8 charset-normalizer-2.0.7 click-8.0.3 flask-1.1.2 gast-0.3.3 google-auth-2.3.2 google-auth-oauthlib-0.4.6 google-pasta-0.2.0 grpcio-1.41.1 gunicorn-19.9.0 h5py-2.10.0 idna-3.3 itsdangerous-2.0.1 keras-2.4.3 keras-preprocessing-1.1.2 markdown-3.3.4 numpy-1.18.5 oauthlib-3.1.1 opt-einsum-3.3.0 pillow-8.3.1 protobuf-3.19.1 pyasn1-0.4.8 pyasn1-modules-0.2.8 pyyaml-6.0 requests-2.26.0 requests-oauthlib-1.3.0 rsa-4.7.2 scipy-1.4.1 six-1.16.0 tensorboard-2.7.0 tensorboard-data-server-0.6.1 tensorboard-plugin-wit-1.8.0 tensorflow-cpu-2.3.0 tensorflow-estimator-2.3.0 termcolor-1.1.0 urllib3-1.26.7 werkzeug-1.0.1 wrapt-1.13.3

-----> Discovering process types

Procfile declares types -> web

-----> Compressing...

Done: 274.9M

-----> Launching...

Released v11

https://img-classifier-demo.herokuapp.com/ deployed to Heroku