Guideline to run the App for code test

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Quick Demo

I deployed this App on this website: **http://8.218.11.33:3000/**

MySQL Database

The default database connection parameters are:
Host: 127.0.0.1 User: mylearning Pass: mylearning Database: mylearning

Executing the mylearning.sql using the root user could build the user and database.
If you need to change the parameters, please edit both backend/config.py and mylearning.sql.

```
mysql> source /var/server/mylearning.sql
Query OK, 0 rows affected (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

Query OK, 0 rows affected (0.00 sec)

Query OK, 0 rows affected (0.01 sec)
```

Tips: It is possible that the SQL command fails to create a user due to permission or password policy issues. Please create the user manually and grant the privileges then.

Permission

Please ensure the folders backend/static/ and backend/logs/ are writeable because they will be used to store logs, datasets and visualizations.

Backend

It is written with Python 3.8.
You may want to install the dependencies:

```
# cd backend
# pip3 install -r requirements.txt
```

It may take some time to finish. Then you can start the FastAPI backend:

```
# python3 main.py
```

```
root@iZj6c0tu43irjxqmlti72eZ:/var/server/backend# python3 main.py
db defined.
INFO:     Started server process [48447]
INFO:     Waiting for application startup.
INFO:     Application startup complete.
INFO:     Uvicorn running on http://127.0.0.1:8008 (Press CTRL+C to quit)
```

You may leave it running at the background but do not terminate it.

Frontend

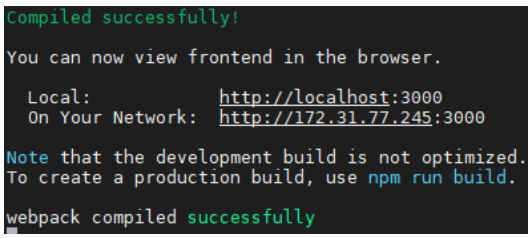
It is tested with NodeJS latest LTS version: 18.12.1 (includes npm 8.19.2).
Tips: Old version NodeJS and npm may not build the project properly.
https://github.com/nodesource/distributions/blob/master/README.md#debinstall

The *node_modules* folder was removed before submission.
So you may want to reinstall the dependencies before the first run:

```
# cd ..
# cd frontend
# npm install
```

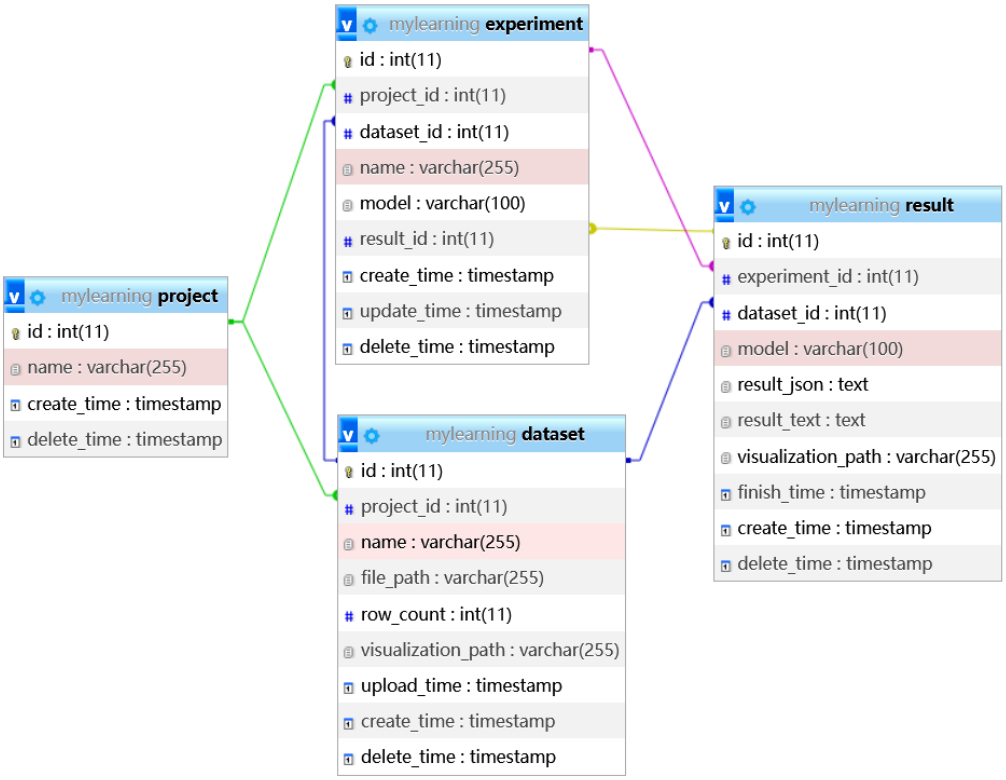
It may take some time to finish.
Then, you will see the *node_modules* folder was built. It could be started:

```
# npm start
```

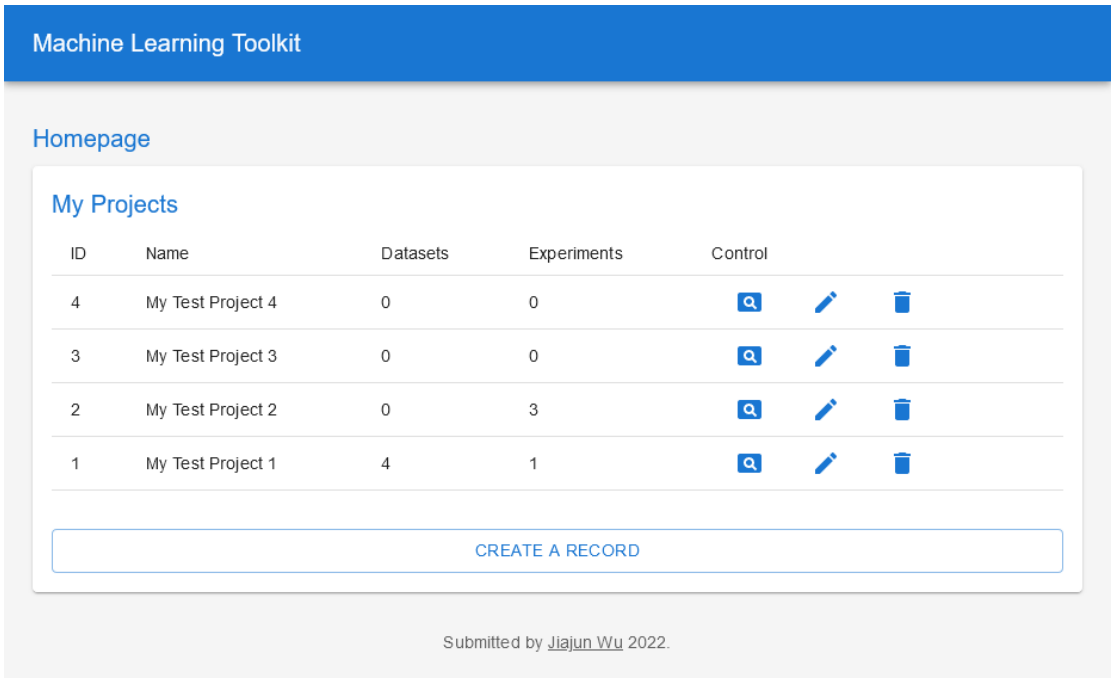


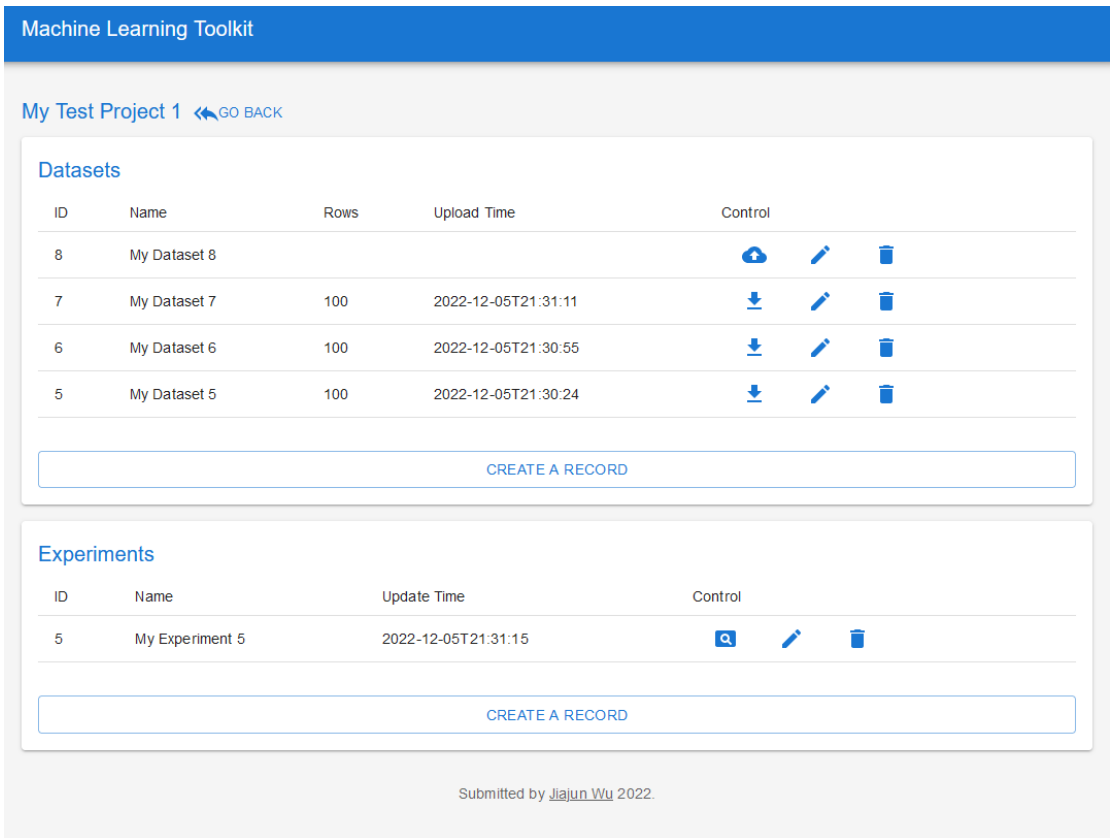
The default URL is http://localhost:3000/.

Database Structure



Screenshots





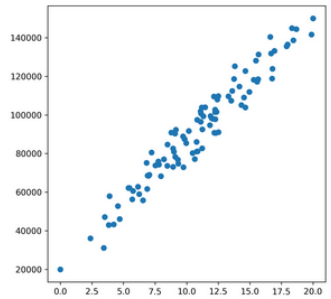
My Experiment 5

Step 1. Select a dataset

Dataset

6. My Dataset 6(100 rows)

Step 2. Visualize the dataset



Step 3. Fit a linear model

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Step 4. Visualize the result

Please finish the previous step.

SAVE

× My Experiment 5 SAVE

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Dataset

6. My Dataset 6(100 rows)

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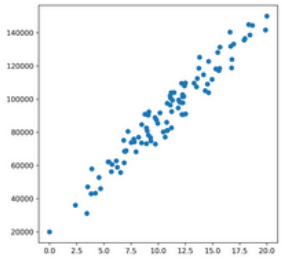
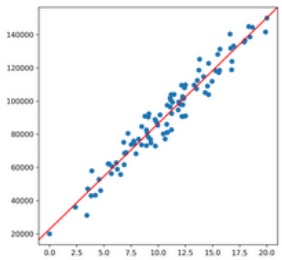


Step 3. Fit a linear model

Computation started at 2022-12-05T21:33:07
Computation finished at 2022-12-05T21:33:11
Computation result: y = 6367.64 * x + 22755.18 (R2 = 0.94)
To simulate huge datasets, I used multithreading technology and placed a "sleep(5)" in the computation function, so you see a 5-second delay.

Step 4. Visualize the result



SAVE