Code Review AutoSklearn - grupy "Moja grupa"

zadanie

Celem KM2 było przygotowanie funkcji, przyjmującej 2 argumenty X,y będące ramką dancyh objaśniających i zmiennej objaśnianej, przygotowującej te dane do urzycia w wybranym modelu AutoML.

przygotowane rozwiązanie

grupa zawarła swoje roziwązanie w jednym pliku: `AutoML_preprocess.py`

W tym pliku zawarte są 4 funkcje:

- `fit_automl`
- `preprocess`
- `cross_valid`
- `funkcja`

czy ten kod osiąga cel jaki postawiono?

Umożliwia przetestowanie modelu na zbiorach z klasyfikacją binarną z openml więc tak. Niestety nie udostępnili kodu do wczytania zbiorów danych, pobrania ich czy innego kodu ułatwiającego odtworzenie ich wyników.

czy w kodzie są oczywiste błędy logiczne?

nie, oczywistych błędów logicznych nie ma

czy patrząc na wymagania postawione podczas prezentacji są one w pełni zaimplementowane?

ten punkty chyba nie dotyczy tej grupy, ponieważ grupa zmieniła bibliotekę po pierwszym kamieniu milowym

czy kod jest zgodny z pep8

nie do końca, ponieważ pycodestyle informuje nas o 35 błędach, z których większość to brak spacji, lub spacja w miejscu gdzie nie powinna być oraz w pliku AutoML*preprocess funkcje które nie muszą być udostępnione urzytkownikowi nie zaczynają się* " (chodzi o preprocess i fit_automl)

Czy są jakieś obszary, w których kod mógłby zostać poprawiony? (skrócić, przyspieszyć, itp.)

- w funkcji `fit_automl` dodałbym argument **kwargs i przekazywał go do konstruktora modelu, aby umożliwić zmiane parametrów
- w tej samej funkcji zmieniłbym domyślną liczbę wątków z -1 na liczbę wątków w dostępnym procesorze -1, ponieważ wbrew pozorom pozwala to szybciej liczyć
- w funkcji `preprocess` usuwałbym wszystkie kolumny o zerowej wariancji nie tylko te, które są całe `NaN` 'ami

Czy dokumentacja i komentarze są wystarczające?

nie do końca, brakuje instrukcji jak uzyskać zamieszczone przykłady, oprócz tego wszystko było jasne

Czy udało się odtworzyć zamieszone przykłady w kodzie?

nie, nie umiem zdobyć splitu do cv, co jest nieoczywiste i nie jest opisanew prezentacji ani kodzie

Czy udało się użyć przygotowanych kodów na nowych danych?

funkcję przetestowałem na zbiorze census-income na którym działała, jednak w tym zbiorze nie ma braków danych.

```
In [ ]:   # ta komórka wymaga pycodestyle
          !pycodestyle AutoML_preprocess.py
```

```
AutoML_preprocess.py:7:1: E302 expected 2 blank lines, found 1
AutoML_preprocess.py:7:17: E231 missing whitespace after ':'
AutoML_preprocess.py:7:33: E231 missing whitespace after ':'
AutoML_preprocess.py:8:5: E265 block comment should start with '# '
AutoML_preprocess.py:10:32: E251 unexpected spaces around keyword / parameter equa
ls
AutoML_preprocess.py:10:34: E251 unexpected spaces around keyword / parameter equa
ls
AutoML_preprocess.py:11:27: E251 unexpected spaces around keyword / parameter equa
ls
AutoML_preprocess.py:11:29: E251 unexpected spaces around keyword / parameter equa
ls
AutoML_preprocess.py:11:33: E261 at least two spaces before inline comment
AutoML_preprocess.py:13:15: E251 unexpected spaces around keyword / parameter equa
ls
AutoML_preprocess.py:13:17: E251 unexpected spaces around keyword / parameter equa
ls
AutoML_preprocess.py:14:21: E251 unexpected spaces around keyword / parameter equa
ls
AutoML_preprocess.py:14:23: E251 unexpected spaces around keyword / parameter equa
ls
AutoML_preprocess.py:20:1: E302 expected 2 blank lines, found 1
AutoML_preprocess.py:26:1: W293 blank line contains whitespace
AutoML_preprocess.py:27:5: E265 block comment should start with '# '
AutoML_preprocess.py:27:80: E501 line too long (93 > 79 characters)
AutoML_preprocess.py:28:52: W291 trailing whitespace
AutoML_preprocess.py:31:1: W293 blank line contains whitespace
AutoML_preprocess.py:32:5: E265 block comment should start with '# '
AutoML_preprocess.py:36:1: W293 blank line contains whitespace
AutoML_preprocess.py:37:5: E265 block comment should start with '# '
AutoML_preprocess.py:40:1: W293 blank line contains whitespace
AutoML_preprocess.py:41:5: E303 too many blank lines (2)
AutoML_preprocess.py:50:1: W293 blank line contains whitespace
AutoML_preprocess.py:55:1: W293 blank line contains whitespace
AutoML_preprocess.py:58:1: W293 blank line contains whitespace
AutoML_preprocess.py:60:48: E231 missing whitespace after ','
AutoML_preprocess.py:65:1: E302 expected 2 blank lines, found 1
AutoML_preprocess.py:65:80: E501 line too long (87 > 79 characters)
AutoML_preprocess.py:72:1: W293 blank line contains whitespace
AutoML_preprocess.py:77:1: W293 blank line contains whitespace
AutoML_preprocess.py:80:1: W293 blank line contains whitespace
AutoML_preprocess.py:82:48: E231 missing whitespace after ','
AutoML_preprocess.py:86:1: W293 blank line contains whitespace
```

In [ ]:
```python
import pandas as pd
from AutoML_preprocess import *

df = pd.read_csv("census_income_dataset.csv")
X,y = df.drop('income_level', axis = 1), df['income_level']
ml, res = funkcja(X,y)
print(res)
```

```
/home/mikolaj/.local/lib/python3.8/site-packages/distributed/node.py:177: UserWarn
ing: Port 8787 is already in use.
Perhaps you already have a cluster running?
Hosting the HTTP server on port 39535 instead
  warnings.warn(
```

```
[ERROR] [2022-05-05 08:56:15,807:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
[ERROR] [2022-05-05 08:56:15,826:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1404, in _handle_report
    await self._reconnect()
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
/home/mikolaj/.local/lib/python3.8/site-packages/distributed/node.py:177: UserWarn
ing: Port 8787 is already in use.
Perhaps you already have a cluster running?
Hosting the HTTP server on port 45049 instead
  warnings.warn(
```

```
[ERROR] [2022-05-05 08:57:18,065:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
[ERROR] [2022-05-05 08:57:18,084:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1404, in _handle_report
    await self._reconnect()
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
/home/mikolaj/.local/lib/python3.8/site-packages/distributed/node.py:177: UserWarn
ing: Port 8787 is already in use.
Perhaps you already have a cluster running?
Hosting the HTTP server on port 44383 instead
  warnings.warn(
```

```
[ERROR] [2022-05-05 08:58:19,889:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
[ERROR] [2022-05-05 08:58:19,922:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1404, in _handle_report
    await self._reconnect()
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
/home/mikolaj/.local/lib/python3.8/site-packages/distributed/node.py:177: UserWarn
ing: Port 8787 is already in use.
Perhaps you already have a cluster running?
Hosting the HTTP server on port 33001 instead
  warnings.warn(
```

```
[ERROR] [2022-05-05 08:59:22,241:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
[ERROR] [2022-05-05 08:59:22,263:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1404, in _handle_report
    await self._reconnect()
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
/home/mikolaj/.local/lib/python3.8/site-packages/distributed/node.py:177: UserWarn
ing: Port 8787 is already in use.
Perhaps you already have a cluster running?
Hosting the HTTP server on port 40285 instead
  warnings.warn(
```

```
[ERROR] [2022-05-05 09:00:24,749:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
[ERROR] [2022-05-05 09:00:24,775:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1404, in _handle_report
    await self._reconnect()
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
/home/mikolaj/.local/lib/python3.8/site-packages/distributed/node.py:177: UserWarn
ing: Port 8787 is already in use.
Perhaps you already have a cluster running?
Hosting the HTTP server on port 37231 instead
  warnings.warn(
```

```
[ERROR] [2022-05-05 09:01:27,843:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
[ERROR] [2022-05-05 09:01:27,866:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1404, in _handle_report
    await self._reconnect()
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
/home/mikolaj/.local/lib/python3.8/site-packages/distributed/node.py:177: UserWarn
ing: Port 8787 is already in use.
Perhaps you already have a cluster running?
Hosting the HTTP server on port 42963 instead
  warnings.warn(
```

```
[ERROR] [2022-05-05 09:02:30,352:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
[ERROR] [2022-05-05 09:02:30,361:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1404, in _handle_report
    await self._reconnect()
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
/home/mikolaj/.local/lib/python3.8/site-packages/distributed/node.py:177: UserWarn
ing: Port 8787 is already in use.
Perhaps you already have a cluster running?
Hosting the HTTP server on port 45309 instead
  warnings.warn(
```

```
[ERROR] [2022-05-05 09:03:28,762:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
[ERROR] [2022-05-05 09:03:28,765:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1404, in _handle_report
    await self._reconnect()
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
/home/mikolaj/.local/lib/python3.8/site-packages/distributed/node.py:177: UserWarn
ing: Port 8787 is already in use.
Perhaps you already have a cluster running?
Hosting the HTTP server on port 38259 instead
  warnings.warn(
```

```
[ERROR] [2022-05-05 09:04:33,413:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
[ERROR] [2022-05-05 09:04:33,429:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1404, in _handle_report
    await self._reconnect()
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
/home/mikolaj/.local/lib/python3.8/site-packages/distributed/node.py:177: UserWarn
ing: Port 8787 is already in use.
Perhaps you already have a cluster running?
Hosting the HTTP server on port 34195 instead
  warnings.warn(
```

```
[ERROR] [2022-05-05 09:05:37,653:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
[ERROR] [2022-05-05 09:05:37,673:asyncio.events]
Traceback (most recent call last):
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1404, in _handle_report
    await self._reconnect()
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/utils.py", li
ne 759, in wrapper
    return await func(*args, **kwargs)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1225, in _reconnect
    await self._ensure_connected(timeout=timeout)
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/client.py", l
ine 1255, in _ensure_connected
    comm = await connect(
  File "/home/mikolaj/.local/lib/python3.8/site-packages/distributed/comm/core.p
y", line 313, in connect
    await asyncio.sleep(backoff)
  File "/usr/lib/python3.8/asyncio/tasks.py", line 659, in sleep
    return await future
asyncio.exceptions.CancelledError
{'accuracy': [0.7606960081883316, 0.8131013306038894, 0.8122440622440622, 0.863431
6134316135, 0.8501228501228502, 0.8214578214578214, 0.8613841113841114, 0.76064701
06470107, 0.7606470106470107, 0.8628173628173628], 'auc': [0.9122009325958264, 0.9
120518765636496, 0.9111041709674566, 0.9131191294218264, 0.9077076221670083, 0.921
0915220126945, 0.9114754532465543, 0.8911134086374455, 0.893656563051555, 0.917856
1930167736]}
```