An Interactive End-To-End Machine Learning Platform API

API Version: 1.0.0

This is the API for An Interactive End-To-End Machine Learning Platform

INDEX

SECURITY SCHEMES

KEY	TYPE	DESCRIPTION
bearerAuth	http, bearer, JWT	

API

1. AUTHENTICATION

1.1 POST /auth/signup

Registers a new user to the platform

REQUEST

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
email	string	
username	string	
passwordHash	string	

RESPONSE

STATUS CODE - 200: OK

1.2 POST /auth/validateEmail

compares the token that has been sent to the email of the user

REQUEST

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
token	string	

RESPONSE

STATUS CODE - 200: OK

1.3 POST /auth/login

Authenticates the user with their credentials

REQUEST

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
username	string	
passwordHash	string	

RESPONSE

STATUS CODE - 200: Tokens

RESPONSE MODEL - application/json

```
{
    access_token   string
    refresh_token  string
}
```

1.4 POST /auth/refresh

Refreshes the access token of the user

REQUEST

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
refresh_token	string	

RESPONSE

STATUS CODE - 200: OK

RESPONSE MODEL - application/json

string

2. MODEL MANAGEMENT

2.1 GET /api/parameters

Lists all the supported parameters for the training of a machine learning model.

REQUEST

No request parameters

RESPONSE

STATUS CODE - 200: OK

RESPONSE MODEL - application/json

```
{
    imputations [string]
    features    [string]
    normalizers [string]
    classifiers [{
    Array of object:

        name    string
        hyperparameters [{
        Array of object:

            name    string
            format  string
        }]
    }]
}
```

2.2 POST /api/workspaces/createModelWorkspace

Creates the corresponding workspace in the model management service.

REQUEST

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
*workspaceId	string	ID of the workspace

RESPONSE

STATUS CODE - 200: OK

2.3 GET /api/workspaces/{workspaceId}/models

Lists all the trained models of the workspace.

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*workspaceId	string	ID of the workspace

RESPONSE

STATUS CODE - 200: OK

RESPONSE MODEL - application/json

```
[{
Array of object:
   modelId  string  ID of the model
   name     string  name of the model
}]
```

2.4 POST /api/workspaces/{workspaceId}/train

Trains a machine learning model with the given parameters.

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*workspaceId	string	ID of the workspace

REQUEST BODY - application/json
```
{
selected parameters for the machine learning model
   model_name  string
   imputation  string
   features    [string]
   normalizer  string
   classifier {
      name      string
      hyperparameters [{
      Array of object:
         name  string
         value {
         }
      }]
   }
}
```

RESPONSE

STATUS CODE - 200: OK

2.5 GET /api/workspaces/{workspaceId}/trainingProgress

Returns the progress percentage of the current training.

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*workspaceId	string	ID of the workspace

RESPONSE

STATUS CODE - 200: OK

RESPONSE MODEL - application/json

number

2.6 GET /api/workspaces/{workspaceId}/models/{modelId}

Returns the model with the model ID in the workspace.

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*modelId	string	ID of the model
*workspaceId	string	ID of the workspace

RESPONSE

STATUS CODE - 200: OK

RESPONSE MODEL - application/json

```
{
   label_performance_metrics [{
   Array of object:
      label       string
      performance_metrics [{
      Array of object:
         name    string
         score   number
      }]
   }]
   imputation     string
   features       [string]
   normalizer     string
   classifier {
      name      string
      hyperparameters [{
      Array of object:
         name  string
         value {
         }
      }]
   }
}
```

STATUS CODE - 401: Unauthorized

2.7 GET /api/workspaces/{workspaceId}/models/{modelId}/predictionId

Returns a prediction ID that can be used to classify actions with the model.

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*modelId	string	ID of the model
*workspaceId	string	ID of the workspace

RESPONSE

STATUS CODE - 200: OK

> **RESPONSE MODEL - application/json**

string
a prediction ID of the model

STATUS CODE - 401: Unauthorized

2.8 GET /api/predictionConfig

Returns the configuration to initiate action classification.

REQUEST

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
predictionId	string	predictionId of a model which will classify actions

RESPONSE

STATUS CODE - 200: OK

> **RESPONSE MODEL - application/json**

```
[{
Array of object:
    name            enum      ALLOWED:Accelerometer, Gyroscope, Magnetometer
                              name of the sensor to be used
    samplingRate  integer   sampling rate of the sensor to be used
}]
```

2.9 POST /api/submitDataWindow

upload raw sensor data to the server which will be used to recognize activities

REQUEST

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
prediction_id	string	

RESPONSE

STATUS CODE - 200: OK

RESPONSE MODEL - application/json

```
[{
Array of object:
    sensorDataPoints [{
    Array of object:
        sensor   enum   ALLOWED:Accelerometer, Gyroscope, Magnetometer
                        name of the sensor of the data point
        dataPoints [{
        Array of object:
            timestamp  integer      timestamp of the data point
            data       [integer]
        }]
    }]
}]
```

3. WORKSPACE MANAGEMENT

3.1 GET /api/sensors

Lists all the available sensors with their maximum sampling rates and the default sampling rate.

REQUEST

No request parameters

RESPONSE

STATUS CODE - 200: OK

RESPONSE MODEL - application/json

```
[{
```
Array of object:

name	enum	**ALLOWED:**Accelerometer, Gyroscope, Magnetometer
		name of the sensor
maxSamplingRate	integer	maximum sampling rate of the sensor
defaultSamplingRate	integer	default sampling rate of the sensor

```
}]
```

STATUS CODE - 401: Unauthorized

3.2 GET /api/workspaces

Lists all the available workspaces of the user.

REQUEST

No request parameters

RESPONSE

STATUS CODE - 200: OK

RESPONSE MODEL - application/json

```
[{
```
Array of object:

id	string	workspace ID
name	string	name of the workspace

```
}]
```

STATUS CODE - 401: Unauthorized

3.3 POST /api/workspaces/create

Creates a new workspace with the given name and sensors.

REQUEST

REQUEST BODY - application/json

```
{
  name                  string                  name of the new workspace
  sensors [{
  Array of object:
    sensorName    enum    ALLOWED: Accelerometer, Gyroscope, Magnetometer
                          name of the sensor
    samplingRate  integer sampling rate of the sensor
  }]
}
```

RESPONSE

STATUS CODE - 200: OK

RESPONSE MODEL - application/json

string
ID of the created workspace

STATUS CODE - 400: Illegal name or sampling rate

STATUS CODE - 401: Unauthorized

3.4 PUT /api/workspaces/{workspaceId}

Changes the name of the workspace to the supplied name

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*workspaceId	string	ID of the workspace to be renamed

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
workspaceName	string	new name of the workspace

RESPONSE

STATUS CODE - 200: Changed successfully

STATUS CODE - 400: Illegal name

STATUS CODE - 401: Unauthorized

3.5 DELETE /api/workspaces/{workspaceId}

Deletes the workspace with the given id

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION

NAME	TYPE	DESCRIPTION
*workspaceId	string	ID of the workspace to be renamed

RESPONSE

STATUS CODE - 200: OK

3.6 GET /api/workspaces/{workspaceId}/sensors

Lists the sensors used in the workspace with their sampling rates.

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*workspaceId	string	ID of the workspace to be renamed

RESPONSE

STATUS CODE - 200: OK

RESPONSE MODEL - application/json

```
[{
Array of object:
    id              string      ID of the sensor
    name            enum        ALLOWED:Accelerometer, Gyroscope, Magnetometer
                                name of the sensor
    dataFormat      [string]
    samplingRate    integer     sampling rate of the sensor
}]
```

STATUS CODE - 401: Unauthorized

3.7 GET /api/workspaces/{workspaceId}/samples

Lists the samples of the workspace.

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*workspaceId	string	ID of the workspace

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
onlyIDs	boolean	whether the samples should include only sample IDs or also the data points it stores
onlyHash	boolean	a unique identifier of the sample set

RESPONSE

STATUS CODE - 200: OK

RESPONSE MODEL - application/json

ONE OF
```
0 {
```
all IDs of samples in the workspace
```
}
prop1
string
```
hash of the samples in the workspace

STATUS CODE - 401: Unauthorized

3.8 GET /api/workspaces/{workspaceId}/samples/{sampleId}

Returns the data points of the sample.

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*workspaceId	string	ID of the workspace
*sampleId	string	ID of the sample

RESPONSE

STATUS CODE - 200: OK

RESPONSE MODEL - application/json

```
{
    label      string      name of the label
    start      integer     timestamp of the start of the sample data
    end        integer     timestamp of the end of the sample data
    sensorDataPoints [{
    Array of object:

        sensorId    string      ID of the sensor of the data point
        dataPoints [{
        Array of object:

            timestamp  integer      timestamp of the data point
            data       [integer]
        }]
    }]
}
```

STATUS CODE - 401: Unauthorized

3.9 DELETE /api/workspaces/{workspaceId}/samples/{sampleId}

Deletes the sample.

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*workspaceId	string	ID of the workspace
*sampleId	string	ID of the sample to be deleted

RESPONSE

STATUS CODE - 200: OK

STATUS CODE - 401: Unauthorized

3.10 PUT /api/workspaces/{workspaceId}/samples/{sampleId}/relabel

Changes the label of a sample.

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*workspaceId	string	ID of the workspace
*sampleId	string	ID of the sample

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
labelId	string	ID of the label

RESPONSE

STATUS CODE - 200: OK

STATUS CODE - 401: Unauthorized

3.11 PUT /api/workspaces/{workspaceId}/samples/{sampleId}/timeframes

Changes the timeframes of the sample.

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*workspaceId	string	ID of the workspace
*sampleId	string	ID of the sample

REQUEST BODY - application/json

[{

Array of object: a new timeframe of the sample

start integer timestamp of the start of the timeframe

```
    end      integer    timestamp of the end of the timeframe
}]
```

RESPONSE

STATUS CODE - 200: OK

STATUS CODE - 401: Unauthorized

3.12 GET /api/workspaces/{workspaceId}/labels

Lists the labels of the workspace.

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*workspaceId	string	ID of the workspace

RESPONSE

STATUS CODE - 200: OK

RESPONSE MODEL - application/json

```
[{
Array of object:
    labelId       string   ID of the label
    name          string   name of the label
    description   string   description of the label
}]
```

STATUS CODE - 401: Unauthorized

3.13 POST /api/workspaces/{workspaceId}/labels/create

Create the label

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*workspaceId	string	ID of the workspace

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
*labelName	string	name of the label

RESPONSE

STATUS CODE - 200: OK

3.14 DELETE /api/workspaces/{workspaceId}/labels/{labelId}

Delete the label together with its associated samples.

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*workspaceId	string	ID of the workspace
*labelId	string	ID of the label

RESPONSE

STATUS CODE - 200: OK

STATUS CODE - 401: Unauthorized

3.15 PUT /api/workspaces/{workspaceId}/labels/{labelId}/rename

Renames the label of the workspace.

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*workspaceId	string	ID of the workspace
*labelId	string	ID of the label

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
labelName	string	new name of the label

RESPONSE

STATUS CODE - 200: OK

STATUS CODE - 401: Unauthorized

3.16 PUT /api/workspaces/{workspaceId}/labels/{labelId}/describe

Sets the description of the workspace to the given description.

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*workspaceId	string	ID of the workspace
*labelId	string	ID of the label

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
description	string	new description of the label

RESPONSE

STATUS CODE - 200: OK

STATUS CODE - 401: Unauhtorized

3.17 GET /api/workspaces/{workspaceId}/submissionId

Returns a submission ID that can be used to gather data to the workspace.

REQUEST

PATH PARAMETERS

NAME	TYPE	DESCRIPTION
*workspaceId	string	ID of the workspace

RESPONSE

STATUS CODE - 200: OK

RESPONSE MODEL - application/json

string
a submission ID of the workspace

STATUS CODE - 401: Unauthorized

3.18 GET /api/submissionConfig

Returns the configuration to initiate data collection.

REQUEST

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
submissionId	string	submission ID of a workspace

RESPONSE

STATUS CODE - 200: OK

RESPONSE MODEL - application/json

```
{
  sensors [{
  Array of object:
    name            enum      ALLOWED:Accelerometer, Gyroscope, Magnetometer
                              name of the sensor
```

```
      samplingRate  integer   sampling rate of the sensor
    }]
    labels [{
    Array of object:

      name          string   name of the label
      description  string   description of the label
    }]
  }
```

STATUS CODE - 400: Invalid submission id

3.19 POST /api/submitSample

Submits sample to the workspace to which the submission id belongs to.

REQUEST

QUERY PARAMETERS

NAME	TYPE	DESCRIPTION
submissionId	string	submission ID of a workspace

REQUEST BODY - application/json

```
{
  label                string
  start                integer
  end                  integer
  sensorDataPoints [{
  Array of object:

    sensor  enum  ALLOWED:Accelerometer, Gyroscope, Magnetometer
                  name of the sensor of the data point
    dataPoints [{
    Array of object:

      timestamp  integer      timestamp of the data point
      data        [integer]
    }]
  }]
}
```

RESPONSE

STATUS CODE - 200: OK