



## **Tarea 8**

Materia: Inteligencia artificial  
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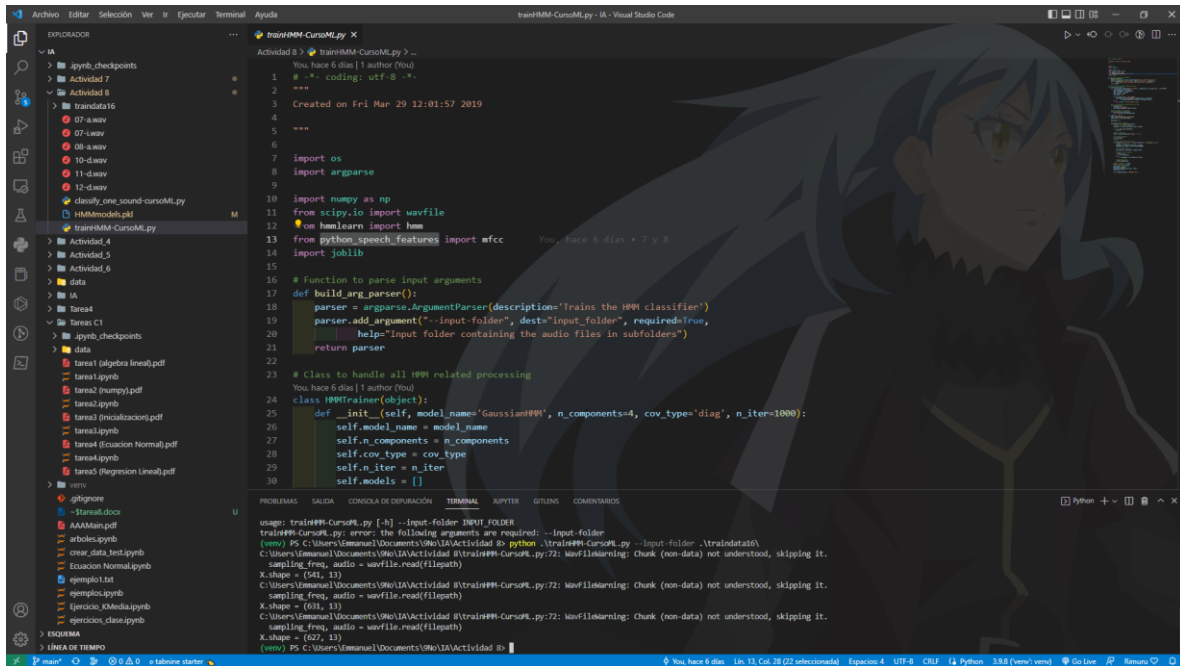
## Ejecutando el archivo trainHMM-CursoML.py

Entrada:

- traindata16

Salida:

- HMMmodels.pkl



```
trainHMM-CursoML.py
You have 6 dias | 1 author (You)
# -*- coding: utf-8 -*-
Created on Fri Mar 29 12:01:57 2019

import os
import argparse

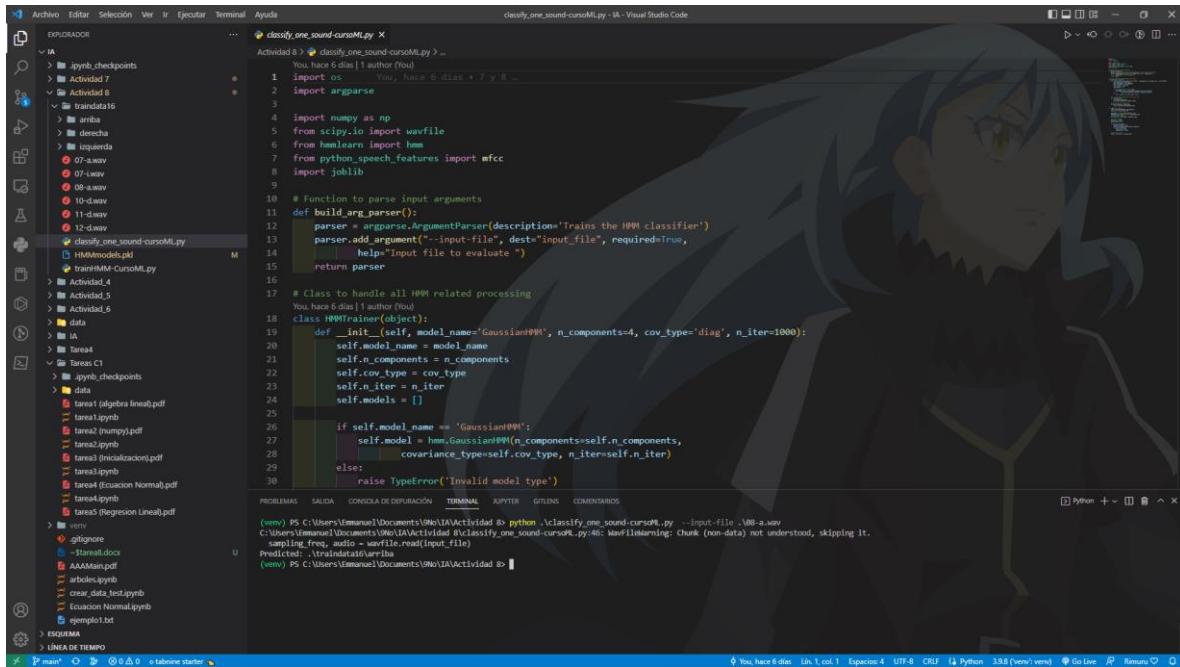
import numpy as np
from scipy.io import wavfile
from hmmlearn import hmm
from python_speech_features import mfcc
import joblib

# Function to parse input arguments
def build_arg_parser():
    parser = argparse.ArgumentParser(description='Trains the HMM classifier')
    parser.add_argument("--input-folder", dest="input_folder", required=True,
                        help="Input folder containing the audio files in subfolders")
    return parser

# Class to handle all HMM related processing
class HMMTrainer(object):
    def __init__(self, model_name='GaussianHMM', n_components=4, cov_type='diag', n_iter=1000):
        self.model_name = model_name
        self.n_components = n_components
        self.cov_type = cov_type
        self.n_iter = n_iter
        self.models = []

usage: trainHMM-CursoML.py [-h] --input-folder INPUT_FOLDER
trainHMM-CursoML.py: error: the following arguments are required: --input-folder
(venv) PS C:\Users\IManuel\Documents\9601IAActividad 8> python .\trainHMM-CursoML.py --input-folder .\traindata16\
C:\Users\IManuel\Documents\9601IAActividad 8\trainHMM-CursoML.py:72: NavFileWarning: Chunk (non-data) not understood, skipping it.
sampling_freq, audio = wavfile.read(filepath)
X.shape = (54, 13)
C:\Users\IManuel\Documents\9601IAActividad 8\trainHMM-CursoML.py:72: NavFileWarning: Chunk (non-data) not understood, skipping it.
sampling_freq, audio = wavfile.read(filepath)
X.shape = (61, 13)
C:\Users\IManuel\Documents\9601IAActividad 8\trainHMM-CursoML.py:72: NavFileWarning: Chunk (non-data) not understood, skipping it.
sampling_freq, audio = wavfile.read(filepath)
X.shape = (62, 13)
(venv) PS C:\Users\IManuel\Documents\9601IAActividad 8>
```

## Ejecutando el archivo classify\_one\_sound-cursoML.py



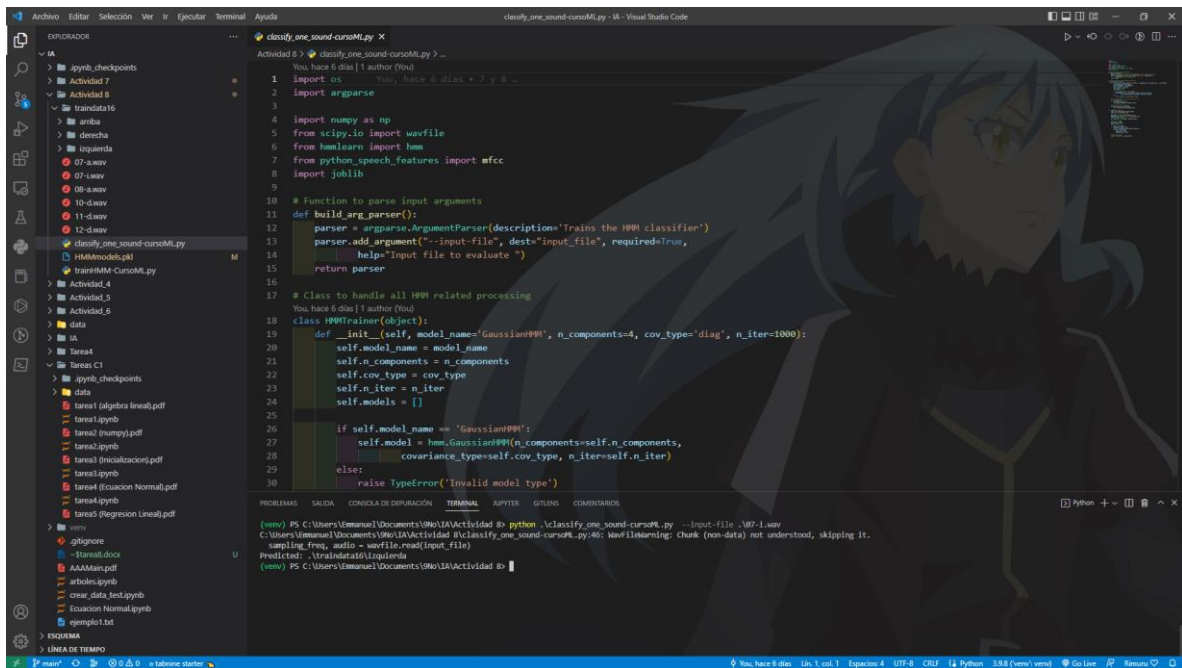
```
classify_one_sound-cursoML.py X
Actividad 8 > python .\classify_one_sound-cursoML.py --input-file .\08-a.wav
1 import os
2 import argparse
3
4 import numpy as np
5 from scipy.io import wavfile
6 from hmmlearn import hmm
7 from python_speech_features import mfcc
8 import joblib
9
10 # Function to parse input arguments
11 def build_arg_parser():
12     parser = argparse.ArgumentParser(description='Trains the HMM classifier')
13     parser.add_argument("--input-file", dest="input_file", required=True,
14                         help="Input file to evaluate ")
15     return parser
16
17 # Class to handle all HMM related processing
18 class HMMTrainer(object):
19     def __init__(self, model_name='GaussianHMM', n_components=4, cov_type='diag', n_iter=1000):
20         self.model_name = model_name
21         self.n_components = n_components
22         self.cov_type = cov_type
23         self.n_iter = n_iter
24         self.models = []
25
26         if self.model_name == 'GaussianHMM':
27             self.model = hmm.GaussianHMM(n_components=self.n_components,
28                                         covariance_type=self.cov_type, n_iter=self.n_iter)
29         else:
30             raise TypeError("Invalid model type")
31
32 PROBLEMAS SALIDA CONSOLE DE DEPURACION TERMINAL JUPYTER GITLINS COMENTARIOS
(venv) PS C:\Users\lmanuel\Documents\U96\IA\Actividad 8> python .\classify_one_sound-cursoML.py --input-file .\08-a.wav
C:\Users\lmanuel\Documents\U96\IA\Actividad 8\classify_one_sound-cursoML.py:46: hmmlearnwarning: Chunk (non-data) not understood, skipping it.
sampling_freq, audio = wavfile.read(input_file)
Predicted: \traindata16\arriba
(venv) PS C:\Users\lmanuel\Documents\U96\IA\Actividad 8>
```

Entrada:

- 08-a.wav

Salida:

- \traindata16\arriba



Entrada:

- 07-i.wav

Salida:

- \traindata16\izquierda