Real time face detection android

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IT has made a lot of progress over the years. Artificial intelligence is one of these advances, and the recognition of paintings by artificial intelligence caused a sensation. After this technique, our AI team worked on a small image recognition project and understood what it was here. Constitutive intelligence is one of the cutting -edge technologies in computer science milestones among all its achievements. Image recognition was a difficult element in the recognition of objects for the machine. In this century, many intelligent IT resources and algorithms facilitate the task. However, this feature is only available for those whose machines are specifically configured to detect objects. After the release of Tensorflow Lite on November 14, 2017, which facilitated the development and deployment of Tensorflow models on mobile and built devices - in this blog, we present instructions to create applications for Android using objects Non -standard using the API can recognize the recognition interface object. You start a project full of work with codes, libraries and API Python interfaces. It's a good way to work in the Python virtual environment. We will use Pip to install Python and make sure it is installed. , Install, install PIP, download safely. Installation: $ virtalenv -Rusion Create a virtual environment for the project: $ virtalenv tensor_androidactivating -Rencilment: `` cd tensor_android` $ source bin/activate` Disable: $ D. EActivate, once you have defined all steps above , you must, discover something like this in your terminal or your poetry orders: to learn more about the virtual environment of Python, visit this link. If you want to work with your own paintings, I collect Steve Jobs and Elon Musk paintings. After having collected all the paintings, the annotation or the object frame in the image must be recognized using Lablimg and its .jpeg I.xml file must be saved in the image folder. After creating an object envelope, we get the XML file as a file used to identify the area on which the classifier must concentrate and resemble this. The limit marker is Xmin, Ymin, Xmax, Ymax.She has undergone computer science for years. AI is such a success and creates waves for recognizing image recognition in artificial intelligence. After this technology, our AI team worked on a small project recognition project and I found out what happened here. Artificial intelligence is one of the technologies of progress in computer science among all its achievements. Diagnosis of images was a difficult part of the objects detection machine. In this century, this facilitates many sources of information and intelligent algorithms. However, this function will only be designed for those who specially configure machine facilities. After developing and distributing models of Tensorflow Lite on mobile and built devices -on devices on November 14, 2017, we offer events for Android applications that can detect special objects using the API TENSORFLOW API. Because the design is filled with Python codes, libraries and API, a good methodology is to work in a virtual environment in Python and make sure you install PIP to install Python. Download safely Get - PiP.PyPP: `$ cd tensor_android` sources bin/activation" Deactivate: $ d activated Python's Virtual Environment, to learn more about all the above activities, visit this link. action. In this project we work with special photos, so I collect photos of Steve Jobs and Elon Mask. After collecting all the paintings with Lelyping, check the object that you need to find in the picture and save the .jpeg i .xml folder. After creating the border of the object. The XML file is called a different description file, which is used to indicate the area where the classification must focus. Assigning boundaries Xmin, YMin, XMAX, YMAX. 0 Hard> 9 753 642 < / Ymax> has successfully collected and spared the requested data. Now we have to convert the pictures from the XML file into a single CSV file, since the file transmission takes place: .jpeg> .xml> .csv> .record. So we have to convert it, I provided the XML transmission code below. .Glob (path + '/*.xml'): Tree = et.Parse (XML_FILE) root = Tree.Getroot () for a member of.) .text, int (root.find ('size') [0] .Text), int] [0] .text), int (member [4] [1] .text), int (member [4] [2] .text), int (member [4] [3] text text.).)) XML list. Apene (value) column name = ['name_subor', 'Width', 'Height', 'Class', 'xmin', 'ymin', 'xmax', 'ymax'] xml_df = pd.dataFrame (xml_list, double point = colon name) Return XML_DF Def Main (): For the directory in ['Train', 'Test']: Image_path = Os.Path.join (Os.Getcwd (), 'Images/}' a The data directory.xml_df.to_csv ('Data/}., So it is usually easy to organize, otherwise save as desired. But if you create a data directory, create a train.csv and an empty test.csv. The next Step is to convert a CSV file to a TFRECORD file, as Tensorflow has many functions when we use our data file in TFRECORD format. I have introduced the .cSV transmission code in .ecord or .FreCord image from object_detection .Tutils import dataset_util from import daaming duplions flags.define_string ('csv_input' ',' path to csv ') fl ags.define_string (' output_path ',' t Hey Path to TFreCord Flags') With your own classes, change the IF label== 'STivs_Jobs: Rebrezet 1 Elif row_label ==' Elon Musk ': Rebreseties 2 Zitate: rebree Nother def split (df, grupa): data = nosauktätup (' data ', [' Dateiname ',' ',' ' Objekt']))) gb = df.grouphy (grupa) return [date (faila nosaukums, gb.get_group (x)) par faila nase, x in ZIP (gb.groups.keys (), gb.groups) def_tf_example (Gruppe, Straße): mit tf.gfile.gfile (os.path.jin (straße, '{}'. Format (Gruppe.FileName)), 'rb') als fid: coded_jpg = fid.read () encoded_jpg_io = io. Bytessio (cod. Jpg] = image.atvir (coded_jpg_io) width, height = Video.dydis Dateiname = Gruppenname.Codode ('utf8') Image_Format = B'jpg 'xmins = [] utf8 [] utf8 [] ymaxs [] ymaxs [] [] utf8 [] utf8 [] ymaxs [] ymaxs = [] classes_text = [] classes = [] Inki, Liniengruppe ']]). Codêt ('utf8') Classes.Append (class_text_to_int (rinda ['class']))) tf_example = tf.train.example Dastaset_util.bytes_feature (encoded_jpg), 'Attêls/Formåts': datuet_util.bytes_feature (IMAGE_FORMAT),' Attêls/Objekte/Bbox/Xmin), 'Attêls/Objekte/Bbox/ymin': Date_util.float Object/Bbox Bytes_List_Feature (classes_text), 'attels/objects/class/tikkete': dataset_util.intil.intil.intil.intil.intil.int64_list_function (classesses (classeses). Python_io.tfrecordwriter (flags.output_path) path = os.path.jin (os.getCwd (), 'attêli', grupa, ceils, ceils, sagt) writer = os.path.jin (os.getCwd ()), flags.output_path) drukät ('Nachfolger {}'. Format (output_path)) Ja __name__ == '_main_': tf.app.runt () Das ist wunderbar wir Haben Sie die Verarbeitung der Daten abgeschlossen! Sie sollten jetzt zwei Dateien im Datenordner viciens.record und das.record als endgültige Ausgabe dieser Aktion haben.Sure, provide your own data and training, and we also don't get good accuracy when we build the network ourselves. Therefore, we will use an external Google model called ssd_mobilenet_v1_coco. In our project we use a model and a configuration file. Download link: SSD_Mobilenet_V1_Cococonfig Files Create a training folder in your project, move the configuration file to it. Next, create another file in the training folder label_object.pbtxt that defines the class labels during model testing. Object_Label must be: i id: 1 Name: "Steve Jobs" Item {Id: 2 Name: "Elon Musk"} Remove SSD_MobileneT Get all pre-matched models. Now we need to make some changes to the configuration file. But I already changed it in this config file. If you want to change the images, follow this step. This part of the configuration file explains how many classes we will use, since we used Steve and Elon, so there are 2; The rest remains the same. I have high configuration values of 90 90 classes, so no need to use such a high value, then change: 800720 decay_factor: 0.95 } } momentum_optimizer_value: 0.9 distortion: 0.9 epsilon: 1.0 } } fine_mobil_tune_2et207/2010_enco_en201" .ckpt "From_Detection_Checkpoint: True # Note: this line limits the training process of Rumped to train a database set of pets. This # effectively bypasses the learning rate program (# learning rate will never decrease). To train permanently, remove the line below. Num_steps: training_augmentation_options_data {landom_horizontal_flip {}} data_augmentaTation_Options {ssd_random_crop {}}}}} will make some changes to this part if 300 #numero parts are needed, otherwise leave it to this project. "#Pecorso} label_map_path from our train records:" training/detection_object.pbtxt") eval_config: {2000 # Note: The following line limits the evaluation process to 10 notes. # Remove this line to evaluate the time of an indefinite period. MAX_EVALS: 10} EAPER_INPUT_READER: {TF_RECORD_INPUT_READER {InPut_Path: "Data / Test" ## Pour Test #path} Labellie_Map_Path: "Training / Object_Detion.PBT. This link. Separate the ZIP models and save it In the project folder. Model installation system: Access $ CD Image_android / Modelierun, $ python setup.py catalog model. Then follow the silent steps to configure protofuf and all the necessary necessary libraries: Note: This command $ $ CD with Python model. Word -word - -Python_out =. Train_dir = training / pipelin_config_path = training / ssd_mobilenet_v1_pets.config where, logtosterr -jyis, tell you that you can see your model reports. Model test and export through: We have now created a model that recognizes Steve or Elon in the picture, but we have not seen how our tests take place here. We have to have a program Create the table before we try. This is a script for the catalog / objection of the model, a script that makes us: Export_inference_gruun Terminal Code: python export_inference_graph.py -inPut_TEPE Image_config_path Train / SSD_Mobilnet. Config-tata_checkpoint_prifix training / model.ckpt-10856- Output_directory steve_elon, whereby aged.If you need to keep the result plan, you will get a mistake, you will go to the models/then emphasize: $ protoc object_dettion/proto/*. Proto-python_out =. $ Pythonpath = $ pythonpath: `PWD` : `PWD` /Slim collecting and repeating TT. We have created a successful order, now our mission is to place Android Gadget. It searches instead of C ++ to create an Android. Then we will call the Java API to make things easier. Classification Procedure: First, clone the tensorflow android repo from this connection and save the project folder: Go Clone-Recurse-Submodules . From here Basel Ana Tensorflow.po. The study area file will be found in the tensorflow directory. #Android_sdk_repository (#name = "Androidsdk",#api_level = 23, ## build_tools_version = "25.0.1", ### System System Change your android SDK path = path = path = path = path = path = road = road = change "", #api_level = 14) Example: SDK, android_sdk_repository (Name = "Androidsdk", api_level = 23, build_tools_version = "27.0.1" on the SDK = "Userren/Android/SDK/SDK) , Android_ndk_repository (Name = "Androidndk", Road = "/User/Robinrene/Download/Android- ndk-ndk- r15/" 15)Create Temp_folder and Object_label.txt and Type: Unknown Steve Jobs Elon Musk Steve_ENELON FROZEN_INFERENCE_GRAPH.PB Temp_folder and Go to Temp_folder and use a Bazel with this command to file_elon.pbbuild / Android / libtensorflow_inference.so libtensorflow_inference.so'yu temp_folder'a taşı java eşdeğerini Oliştur: $ Baz build _tmat. The JAR file is now the NDRID application in the Temp_folder file. Move to it.Next step Libensorflow_inference.So and Liberensorflow_inference_Java.jar in your library file Click Libensorflow_inference. Then open the CMAKE dialog box and enter the path of CMEK.TXT. The Imagenow link below. The file was created with a project. Change certain configurations, deactivate the compilation file. Gradle and def'i will change Natibuildyst = â Project model Way and Label Road No Street in the picture below, that's all! Let's see if our Android app detects from Elona or Steve? Then click Execute. Final edition: In the end, you have to get such a result. Otherwise check the code or model. Once this feature gets into production, start developing this amazing thing on your mobile phone. If you meet at any time and need help, you comment on the next section, let's go back to you. Happy coding! Guide for another 5 minutes to use the firstMost Utlisant fistore fistore [comment faire] escaped /svr/realime-nesn and face-detroid-out-teensorflow-nesj-api//svrmedia/f/f/f/f/face-th. Png/svrmedia/heroes/f/lece-dekround-object.png