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Cart451

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Lets Communicate workshop

Part A:

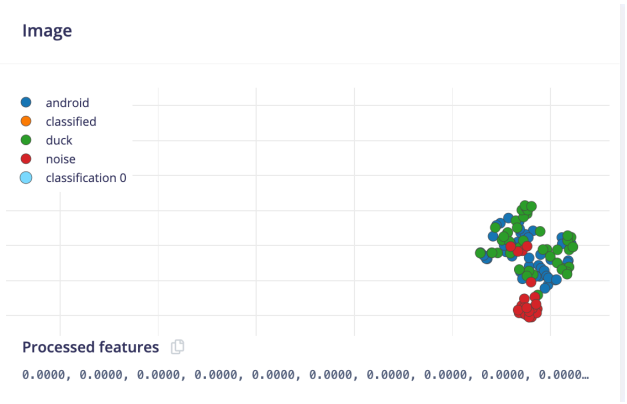
1. The initial data I provided was a rubber duck and an android toy. I chose those objects because they look cute, funny and creative. They have strong colours (green and yellow) so it is easy for them to be distinguished and they are small sized so it was easy for me to carry them.

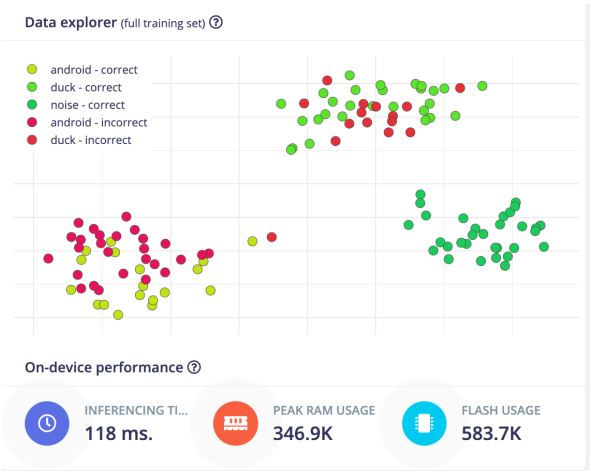
2. The purpose of the task we did in class was to first get familiar with artificial intelligence image recognition as well as using a software that is a new and interesting concept for us, building without coding using edge impulse.

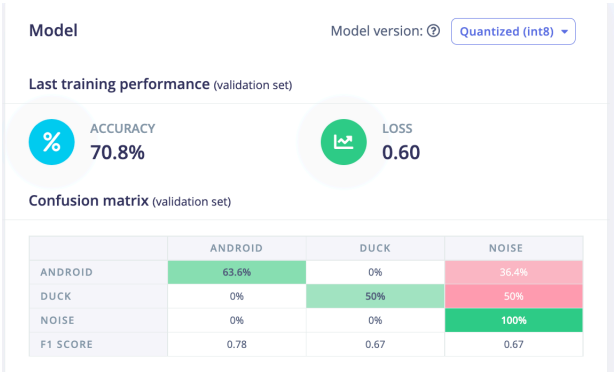
3. After creating a project on the software's dashboard, I proceed by uploading my data on the project to then have 80-20% training testing images. To then go through steps to verify the accuracy of the imported data into Edge impulse. Seeing what kind of pictures were accurate and which ones weren't through various factors. That step was probably the

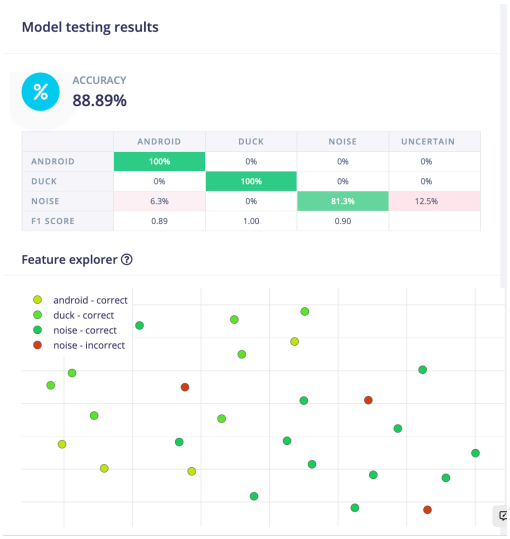
most interesting to go through, it gave me an idea of what to do next time when taking pictures. Lastly, deployment. We deployed by running the software locally by giving access to the device's camera. After deployment it was time for the fun part, to see how accurate the machine was.

4. My dataset was not too bad! The noise file did do what it was supposed to do so it was not too accurate. But my results were averaging between 70-88%.









5. The accuracy percentage of training is 70.8%. The accuracy after training and testing is 88.9%. The precision of the model according to the graph it is 100% of the ducks was

identified as a duck and 100% of the android was identified as an android. When it comes to noise, it is only 81.3% out of the training set was tested.

6. I believe to make my model improve is by uploading data and having a better quality of data. In translation to what we did in class, upload more pictures so the model can have more training and testing content along with taking better quality pictures. Those two things will definitely make the model better and by better, I mean having more accurate results.

Obviously, the results are not 100%. Me posing with the duck face gives that I am a duck (I am NOT!) but the model just needs more practice and better pictures.

Part C:

1. Tracking body language and face recognition to detect terrorist attacks via security cameras is an idea I had that could save lives by combining object dedication and computer vision. For example, the machine is trained by watching footage of previous attacks and studying their movements through body language and expressions. People who have committed such acts behave in a particular way, such as walking with a mix of aggression and anxiety. Humans have done this before. Airport agents choose passengers to search their luggage based on their body language; with practise, agents can tell if someone is suspicious or not. The difference is agents are always looking and that is their job meanwhile there is no one with that kind of experience can be watching a store or a school. Where so many shootings happen.