**AI Face Detection System used in London's CCTV network**

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The 3 AI systems that I have developed are :-

1. Face detection victimisation photos

2. Face detection and tagging victimisation real time digital camera

3. Face detection and blurring

\* For the primary AI system developed, the most motive is to seek out person x in a very specific frame of multiple individuals. The program analyses given image of person x and gets the correct rgb magnitude relation and mathematically calculations for the persons face. These numbers are then calculated into a matrix, this creates a variety of the persons face. Now, once the image of multiple individuals along is given to the AI system, it analyses every and each constituent and rgb magnitude relation within the frame. It tries to seek out the right match for the matrix variety of the face of person x within the given image of these multiple individuals within the frame. If the image matches the output of the program is “person x found in image”.

This type of program are often used for security functions by the metropolitan police to seek out an offender or a fleeing criminal in an outside static image that probably has the criminal in it. What the program can do is locate the person from the stock image provided and let the police understand if he or she is within the image or not. this may even be accustomed to notice an individual WHO is missing. If the suspicion of getting {the specific|the actual} individual in a very particular image will increase, the police could use this to substantiate and notice him/her. the matter here is that the program will solely be utilized in case there's a static image which could have a precise person in and not real time footage. This issue is mounted within the next program.

The potential enhancements to the present style of program would be optimising the program to produce higher practicality and improve the general performance and preciseness of the detection. a lot of} the program are often developed even more to method giant information of pictures and notice individuals needed and report them consequently. It can even be improved to produce output within the variety of pictures by circling the person found on the stock pictures provided.

\* For the second AI system developed, the essential practicality of the program is to seek out a selected individual and tag him/her in relatime over a digital camera frame. It essentially compares the footprints of the stock pic provided of person x WHO is needed to be labelled within the relatime image. The system primarily uses the library cv2 in python that helps in obtaining real time feed from the digital camera and gets the correct footprint of every of the rgb ratios within the image. If the footprint extracted within the stock image matches the $64000 time footage, the program tags half found within the relatime image. If not found, the program tags the image of the person as unknown. this is often the tactic during which the program {is able|is in a very position|is ready} to spot and tag a selected individual in a real time image.

This is a serious improvement over the previous program. The program has the potential of finding individuals in real time footage. The metropolitan police will simply use this to seek out criminals roaming freely publicly on the streets of london. merely having this AI system on high of the present network of security cameras in london will facilitate the metropolitan police cut back crime and catch hold of criminals. equally as explained before, this may even be accustomed notice missing individuals. The program conjointly offers tagging every and each individual found within the footage that could be a bonus to police work specific individuals within the real time footage.

For the potential enhancements and future developments to the present program, I might say the program are often improved in terms of preciseness and quicker process because the program takes a short time to method the $64000 time camera footage and tag the individuals found in it. apart from that, another probable improvement to the program are often, reading from an information of various people that got to be found and labelled within the real time footage of a security camera. Similarly, another improvement over the present version was obtaining screenshots of the $64000 time video once a possible match happens and tagging the person seen in it.

\* For the third program, the essential practicality of the program is to seek out the shape of any persons face and apply a blurring filter to that. this is often primarily for the law and order a part of it wherever the individual giving an announcement etc is blurred out for security functions. What the program is essentially scans the image to seek out the shape of a face. just in case the program comes across one it blurs out the face of the individual. If the condition of finding a face of an individual isn't completed the program will nothing.

In this program, we tend to essentially see the blur feature. It blurs out the faces of individuals found in a very real time digital camera output. this may be helpful to blur out the faces of criminals and alternative potential people that would possibly want it. this may even be accustomed blur out the faces of victims and folks WHO would supply witness statements once it involves problems in court for security reasons.

I would recommend that the blurring feature are often adopted to specific individuals. for instance during this case, the program blurs each alternative individual detected within the frame. it'd be nice to check the blur feature solely on specific people who are fed into the system which might be blurred out apart from the others. Another issue with the program is that it tends to unblur the person once the face moves to the facet i.e the opposite direction, this may be mounted by applying best functioning of the system in a very means that the individual once blurred is unbroken blurred no matter could also be the position of the face.