

2a. My computing innovation is Face++, an AI-based software that is being used to empower facial recognition software (1). The software is intended to be the world's most advanced AI-controlled facial recognition software. It describes the software's functionality by showing video of the program running with an explanation of how the program is able to recognize faces overlaying the video. My artifact also shows the product's purpose by displaying a sample video from Baidu headquarters of them using the software to gain access to their building.

2b. I started my artifact by creating a project on Hitfilm 4, a video editing program. I followed by looking for clips of video, mostly stock footage, that would fit in with my script. I downloaded these videos as MP4 and imported them to my project (7-14). After this I recorded the audio for my project on Audacity and exported it into MP3 files. I imported the MP3 files and lined them, up with my MP4 files. After all the clips were spliced together, I finalized the project and exported it from Hitfilm 4 as an MP4 file.

2c. One beneficial effect that Face++ will have on society is that it will provide police forces with more accurate forms of tracking down criminals, leading to a safer environment. In China, police are already taking steps to implement the technology into CCTV cameras to help analyze movement patterns of criminals to predict criminal acts (6). The software is also being used by companies in the Shenzhen province of China to allow their employees to enter their work building by staring at a camera, rather than using an ID card (4). The Chinese government recently poured 460 million dollars into the company in hopes of using the software to build a central, "... eyes and brain of the cit[ies]," (6). China has been pouring million into startup companies based in the AI realm with an end goal of becoming the world's leader in AI technology (6). The software has also been used for convenience in more menial jobs across China such as being able to smile at a camera in select fast food restaurants, such as KFC, to pay for meals (3). There are fears that the software will have negative repercussions on societal life in China. The cameras that are being equipped with the software are not always the highest resolution which may confuse the software (2). This can lead to situations in which people may be accused of committing crimes they had no part in based off of the software scanning footage and reading the wrong faces (2).

2d. Face++ uses neural network learning protocol to analyze photos in order to identify people (1). In order for the software to work, it needs to be an image as a jpg file to be input. This can be done by either hooking up a camera feed, which will then be broken down into frame by frame jpegs, or manually inputting a jpg file into the software's API (5). After the software has a source file to analyze, the AI will search for similarities between that analysis and recently analyzed files. When the software finds a similarity, it will map a dot to the region the similarity is found in. The software does this 106 times in order to map out the distance between facial features and curvature (1). After it finishes mapping out the image, it looks into an attached database of facial

data and searches for the person whose data most similarly matches to the scanned file (5). After it finds a match, the software will output the name of the person it believes it is looking at. A commonly held privacy concern is that the Chinese government will abuse this software to monitor their population (2). Many people see the government's recent pouring of \$460 million into the company as an attempt to gain control of the company which furthers their fears (6). If the government were to take control, they would be able to oppress the population by enforcing laws cameras and speakers, a scenario reminiscent of 1984 (2).

2e. Works Cited:

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