**SYSTEM ANALYSIS**

**EXISTING SYSTEM:**

In the previous studies, there are some studies that have already tried to apply machine learning into the field of computer vision about humans. By designing a convolutional neural network, the computer managed to distinguish different human's behaviors. What's more, Zhu et al. also gave out an algorithm based on deep learning to monitor students' behaviors during the test. In terms of smoking behavior detecting, Zhang et al. have developed a machine learning algorithm in the method of decision tree. Their model achieved 84.11% accuracy with the best performance

**DISADVANTAGES OF EXISTING SYSTEM:**

1. Results are not up to the mark.
2. The dataset this paper uses only one class(type).

**Algorithm:** **SVM, Decision tree, k-means**

**PROPOSED SYSTEM:**

For instance, smoking, talking on the phone is hard to detect even with our naked eyes as well. The phone may be too small to be blocked by people's hands, thus making the problem more complicated. Zheng used Machine Learning algorithms based on Support Vector Machine (SVM) as well as Convolutional Neural Network (CNN) to predict people's walking upstairs and downstairs behavior, which achieved 93.5% as the highest accuracy. However, this paper would like to compare the mainstream machine learning algorithms in detecting the smoking and calling behaviors and figure out which one is the best solution to the problem. The rest of this paper is divided into following parts: Part 2 shows the datasets this study picked and its problems to be solved. Then visualization of each class and results of different machine learning algorithms will be presented in Part

3. Finally, the conclusion will be summarized in Part 4.

**ADVANTAGES OF PROPOSED SYSTEM:**

* achieved 93.5% as the highest accuracy.
* The dataset this paper uses has three classes: Smoking class, Calling class and Normal class.

**Algorithm:** Convolutional Neural Network (CNN), Machine Learning algorithms, Support Vector Machine (SVM)

**SYSTEM REQUIREMENTS:**

**HARDWARE REQUIREMENTS:**

* System : Intel Core i3.
* Hard Disk : 1TB.
* Monitor : 15’’ LED
* Input Devices : Keyboard, Mouse
* Ram : 8GB.

**SOFTWARE REQUIREMENTS:**

* Operating system : Windows 10.
* Coding Language : Python
* Tool : PyCharm, Visual Studio Code
* Database : SQLite

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