**A proposal to explore the moving object detection based on video using the frame difference method**

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**Introduction**

Object detection is a subject which belong to computer vision, using computer as eyes to detect objects. Moving object detection has been used in many different areas. In the crossroad, the monitor detecting the speed and the vehicle plates helps the police to maintain the public transportation. Brick and mortar stores use computer vision algorithms and cameras to understand customers and their behaviors. It can recognize faces and determine person characteristics such as gender or age range. Number of times noticed by pedestrians.

**State of problem**

There are many methods to detect moving objects, such as optical flow methods, frame difference methods… Here my group will use frame difference methods to fulfill the whole exploration. The main problem is to find the way to get two or three frames in the video and ensure the threshold. The noise filter will be used to delete the noise in the sample videos.

**Plan of action**

I will split the whole program into 4 steps. First, we will go to the library and use the internet to search some related materials to read. The second step will be done by built a model and found some sample videos. The third step we will write the code and plot the model. The final step will be writing the report.

**Management plan**

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| --- | --- | --- | --- | --- | --- |
|  | February 15th -20th | February 21st – 29th | March 1st-15th | March 16th -30th | April 1st -15th |
| Search materials | **✅** |  |  |  |  |
| Build models |  | **✅** | **✅** |  |  |
| Code writing and plot |  |  | **✅** | **✅** |  |
| Writing report |  |  |  | **✅** | **✅** |

**Credential**

Tong Zhao, a computer engineering student, selected computer vision this semester. Jing Li who added computer vision this semester as well.

Both of them made a group to finish this exploration.