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Computation in Data Science - Background Removal

Try to analysis in better resolution.:

Here I try original resolution (320 \* 240 for every frame size) on two videos.

● Report should contain following information:

○ Select two videos to analyze, please specify which videos you used.

I select Video\_008 (“Traffic during windy day”) and Video\_003 (“Wandering students”) form Background Models Challenge[[1]](#footnote-1).

○ Plot matrices

|  |  |  |
| --- | --- | --- |
| (a) Matrix illustration | (b) Video\_003 | (c) Video\_008 |
|  |  |  |

○ Background subtraction comparison

|  |  |  |
| --- | --- | --- |
| (a) Original matrix | (b) Low rank approximation | (c) Residual |
|  |  |  |

|  |  |
| --- | --- |
| (a) Video\_003 Background | (b) Video\_003 People |
|  |  |
| (c) Video\_008 Background | (d) Video\_008 Car |
|  |  |

○ Try to analysis performance

|  |  |  |
| --- | --- | --- |
| 1. Video\_003 Output | 1. Video\_003 Binary | 1. Video\_003 Ground truth |
|  |  |  |
| 1. Video\_008 Output | 1. Video\_008 Binary | 1. Video\_008 Ground truth |
|  |  |  |

Video\_003: average dice Coefficient= 0.869

Video\_008: average dice Coefficient= 0.346

○ How to improve performance

○ Summary

● Hand in the video

1. http://bmc.iut-auvergne.com/?page\_id=24 [↑](#footnote-ref-1)