|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Threshold Frames | Segmentation Threshold Frames | Delta Frames | Windows | Sampling |
| Episode Detection | Task: Detect episodes  The goal of the episode detection experiments is to show that frames more accurately/efficiently (?) detect episodes. Plots show existence and duration error for various types of frames vs. various ways to create windows. | | | | |
| Existence & Duration Error –windows vs. frames |  | Tow04 vs windows qualified /segmented - min, avg, max flsp | N/A | Tow, traffic | N/A |
|  | Traffic-1128 vs windows qualified -min/max/avg speed |  |  | Tow, traffic | N/A |
|  |  |  |  |  | N/A |
|  |  |  |  |  | N/A |
|  | Tow 04 (>= 0.2 flsp),  Traffic (1129, 1058) |  |  | Tow – segmented on avg, max, min flsp |  |
|  |  |  |  |  |  |
| Scatter Plots | Task: ?? Visualize data?? – have three measures, Hausdorff, Euclidean, Grid Metric | | | | |
| Depth vs. Density |  |  | Tow | Tow |  |
| Depth vs. flsp |  |  | Tow | Tow |  |
| Scatter – Depth vs. flsp |  |  | X | X | X |
| Scatter – depth vs. density |  |  | X | X | X |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Histograms | Task: Create histogram representing what? | | | | |
| Flsp histogram | X |  | X |  |  |
| Hist comparisons |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Fragments & Punctuations |  |  |  |  |  |
| Fragments – fragments vs. no fragment | Tow04 , tow13, Traffic, counts & execution times | Tow04, tow 13 – counts & execution times |  |  |  |
| Punctuations – frame end vs. frame start/end | Tow04, traffic, tow13 | Tow04, tow13 |  |  |  |
|  |  |  |  |  |  |
| Execution Time |  |  |  |  |  |
| Execution time | Compares threshold frames, segmentation threshold frames and count-based tumbling windows – see minimum aggregation query over tow4 and maximum aggregation query over traffic | | | | |
|  |  |  |  |  |  |

Existence Error – False negatives – frame exists, but no selected windows overlap that frame

Existence Error – false positives – window exists, no frames overlap

Duration Error – Type 1 – (tuples in positive frame and negative window); Type 2 – (tuples in negative frame and positive window)

Approximate a signal – RMS versus a signal -

TODO:

1. Ask Sharmadha – Duration error – what is

4 types of tasks: histograms, plots, estimating curves, capturing episodes – for all four have different task-based metrics – then also do execution times for different types of frames

Histograms –

Estimating curves – delta frames, sum error – do a sum-based delta frame based on sum of errors

Plots –

Capturing episodes – threshold frames

Execution time – expected savings on threshold frames (due to reduced output), when number of outputs is the same, we want similar execution times

Compare execution times for similar ‘goodness’