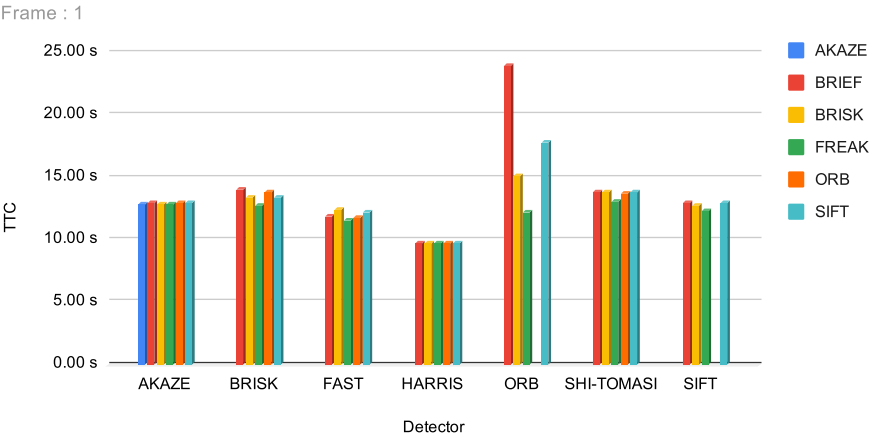


| Frame | 1 | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|
| Detector/Descriptor | AKAZE | BRIEF | BRISK | FREAK | ORB | SIFT |
| AKAZE | 12.87 s | 12.97 s | 12.83 s | 12.90 s | 13.00 s | 13.00 s |
| BRISK | | 14.05 s | 13.40 s | 12.76 s | 13.78 s | 13.41 s |
| FAST | | 11.92 s | 12.44 s | 11.57 s | 11.79 s | 12.18 s |
| HARRIS | | 9.75 s | 9.75 s | 9.75 s | 9.75 s | 9.75 s |
| ORB | | 23.98 s | 15.09 s | 12.21 s | | 17.83 s |
| SHI-TOMASI | | 13.81 s | 13.82 s | 13.09 s | 13.67 s | 13.81 s |
| SIFT | | 13.00 s | 12.73 s | 12.32 s | | 12.96 s |

| | |
|---------|---------|
| ORB/ORB | 103.2 s |
|---------|---------|

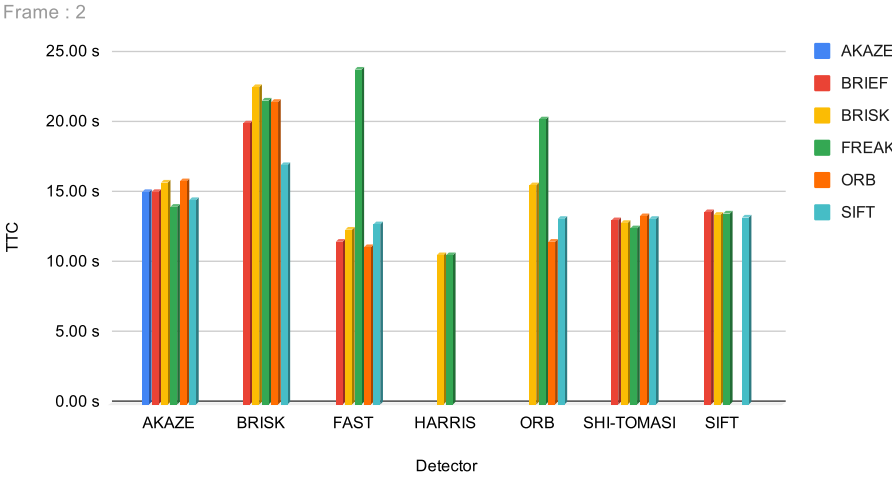
TTC Camera



| Frame | 2 | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|
| Detector/Descriptor | AKAZE | BRIEF | BRISK | FREAK | ORB | SIFT |
| AKAZE | 15.10 s | 15.16 s | 15.77 s | 14.10 s | 15.88 s | 14.55 s |
| BRISK | | 20.01 s | 22.64 s | 21.65 s | 21.52 s | 17.01 s |
| FAST | | 11.57 s | 12.48 s | 23.81 s | 11.22 s | 12.81 s |
| HARRIS | | | 10.59 s | 10.59 s | | |
| ORB | | | 15.63 s | 20.32 s | 11.62 s | 13.21 s |
| SHI-TOMASI | | 13.15 s | 12.90 s | 12.53 s | 13.37 s | 13.21 s |
| SIFT | | 13.65 s | 13.45 s | 13.59 s | | 13.33 s |

| | |
|--------------|-------|
| HARRIS/BRIEF | 52.8 |
| HARRIS/ORB | 52.8 |
| HARRIS/SIFT | 52.8 |
| ORB/BRIEF | 57.21 |

TTC Camera



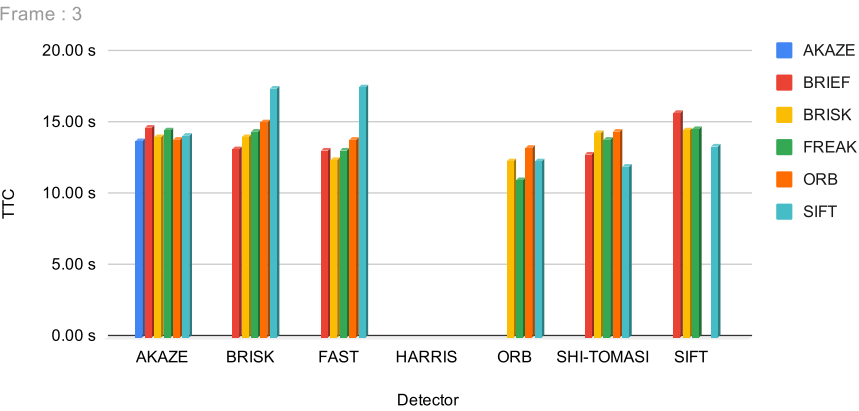
| Frame | 3 | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|
| Detector/Descriptor | AKAZE | BRIEF | BRISK | FREAK | ORB | SIFT |
| AKAZE | 13.82 s | 14.76 s | 14.09 s | 14.60 s | 13.92 s | 14.20 s |
| BRISK | | 13.24 s | 14.12 s | 14.46 s | 15.15 s | 17.50 s |
| FAST | | 13.20 s | 12.48 s | 13.16 s | 13.94 s | 17.58 s |
| HARRIS | | | | | | |
| ORB | | | 12.36 s | 11.11 s | 13.38 s | 12.40 s |
| SHI-TOMASI | | 12.88 s | 14.36 s | 13.89 s | 14.48 s | 11.98 s |
| SIFT | | 15.84 s | 14.56 s | 14.62 s | | 13.40 s |

| | |
|----------------|--------|
| HARRIS / BRIEF | NAN |
| HARRIS / BRISK | -10.3 |
| HARRIS / FREAK | -18.26 |
| HARRIS / ORB | -80.85 |
| HARRIS / SIFT | -10.3 |
| ORB/ BIREF | 102.1 |

| Frame | 4 | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|
| Detector/Descriptor | AKAZE | BRIEF | BRISK | FREAK | ORB | SIFT |
| AKAZE | 14.86 s | 14.49 s | 14.73 s | 14.66 s | 14.81 s | 14.72 s |
| BRISK | | 20.49 s | 16.11 s | 14.29 s | 17.42 s | 13.18 s |
| FAST | | 13.74 s | 13.16 s | 14.08 s | 13.93 s | 15.95 s |
| HARRIS | | 11.77 s | 11.77 s | 11.77 s | 11.77 s | 11.77 s |
| ORB | | 13.54 s | 24.32 s | 10.86 s | 25.04 s | |
| SHI-TOMASI | | 12.44 s | 11.76 s | 12.41 s | 11.62 s | 12.39 s |
| SIFT | | 20.37 s | 20.54 s | 21.24 s | | 19.78 s |

| | |
|----------|-------|
| ORB/SIFT | 66.83 |
|----------|-------|

TTC Camera



TTC Camera

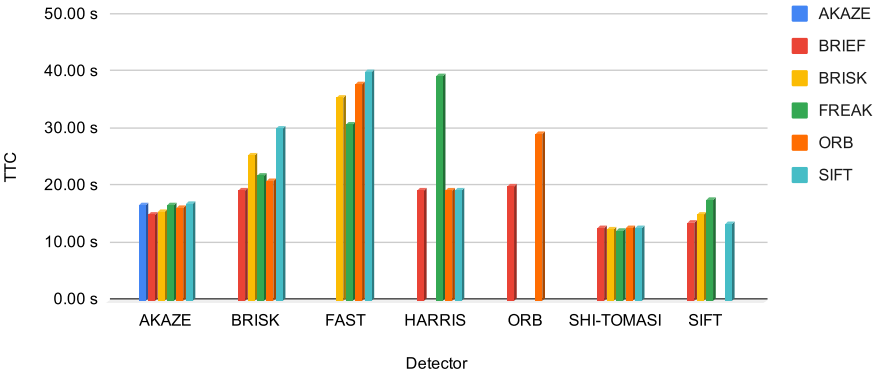


| | | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|
| Frame | 5 | | | | | |
| Detector/Descriptor | AKAZE | BRIEF | BRISK | FREAK | ORB | SIFT |
| AKAZE | 16.93 s | 15.27 s | 15.74 s | 16.82 s | 16.46 s | 17.11 s |
| BRISK | | 19.51 s | 25.63 s | 21.99 s | 21.17 s | 30.24 s |
| FAST | | | 35.63 s | 30.93 s | 37.98 s | 40.23 s |
| HARRIS | | 19.41 s | | 39.58 s | 19.41 s | 19.41 s |
| ORB | | 20.23 s | | | 29.33 s | |
| SHI-TOMASI | | 12.81 s | 12.56 s | 12.44 s | 12.85 s | 12.81 s |
| SIFT | | 13.78 s | 15.13 s | 17.78 s | | 13.54 s |

| | |
|----------------|--------|
| FAST / BRIEF | 53.95 |
| HARRIS / BRISK | 89.83 |
| ORB / BRISK | 167.63 |
| ORB / FREAK | 743.24 |
| ORB / SIFT | 156.22 |

TTC Camera

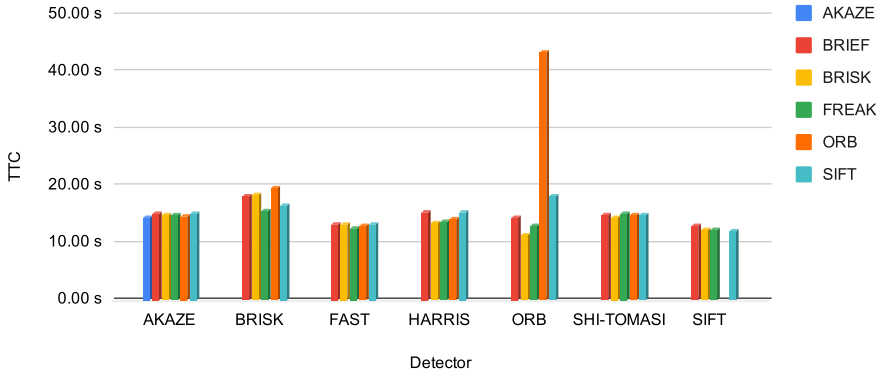
Frame : 5



| | | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|
| Frame | 6 | | | | | |
| Detector/Descriptor | AKAZE | BRIEF | BRISK | FREAK | ORB | SIFT |
| AKAZE | 14.54 s | 15.31 s | 14.86 s | 14.99 s | 14.84 s | 15.09 s |
| BRISK | | 18.20 s | 18.51 s | 15.76 s | 19.64 s | 16.56 s |
| FAST | | 13.41 s | 13.20 s | 12.58 s | 13.08 s | 13.25 s |
| HARRIS | | 15.53 s | 13.56 s | 13.90 s | 14.20 s | 15.53 s |
| ORB | | 14.48 s | 11.32 s | 13.14 s | 43.57 s | 18.24 s |
| SHI-TOMASI | | 14.99 s | 14.58 s | 15.09 s | 14.92 s | 14.99 s |
| SIFT | | 13.05 s | 12.36 s | 12.32 s | | 12.11 s |

TTC Camera

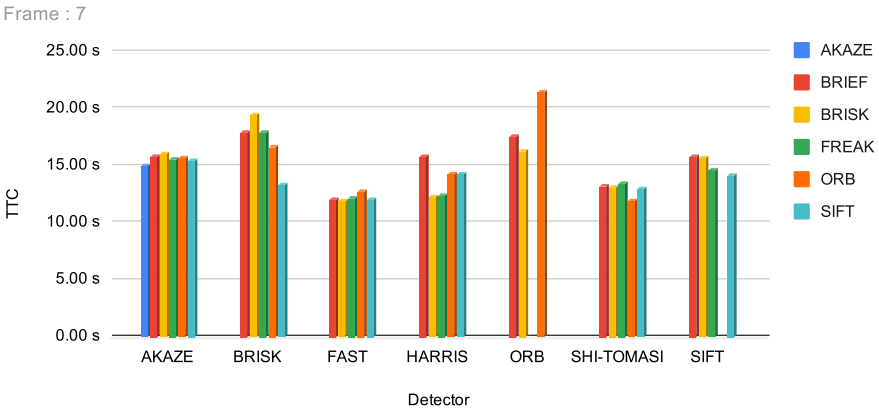
Frame : 6



| | | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|
| Frame | 7 | | | | | |
| Detector/Descriptor | AKAZE | BRIEF | BRISK | FREAK | ORB | SIFT |
| AKAZE | 15.08 s | 15.81 s | 16.06 s | 15.58 s | 15.71 s | 15.51 s |
| BRISK | | 17.97 s | 19.50 s | 17.98 s | 16.63 s | 13.42 s |
| FAST | | 12.09 s | 11.97 s | 12.21 s | 12.84 s | 12.06 s |
| HARRIS | | 15.90 s | 12.28 s | 12.40 s | 14.27 s | 14.27 s |
| ORB | | 17.62 s | 16.36 s | | 21.55 s | |
| SHI-TOMASI | | 13.31 s | 13.13 s | 13.44 s | 11.93 s | 13.00 s |
| SIFT | | 15.87 s | 15.73 s | 14.71 s | | 14.18 s |

| | |
|-------------|--------|
| ORB / FREAK | -241.3 |
| ORB / SIFT | 193.5 |

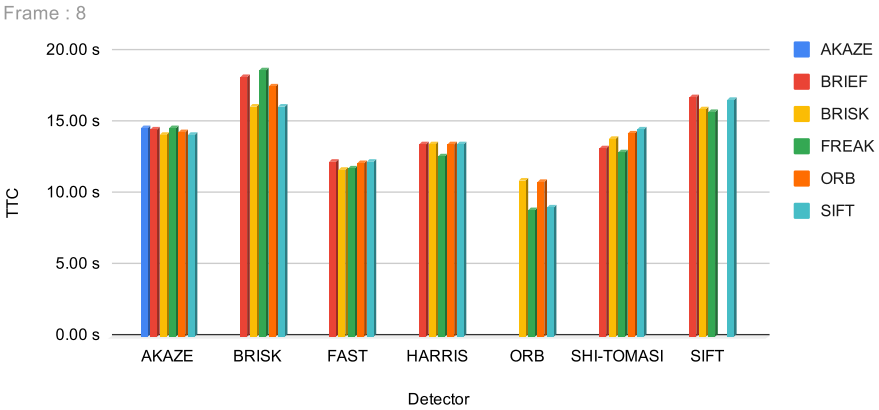
TTC Camera



| | | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|
| Frame | 8 | | | | | |
| Detector/Descriptor | AKAZE | BRIEF | BRISK | FREAK | ORB | SIFT |
| AKAZE | 14.66 s | 14.58 s | 14.17 s | 14.69 s | 14.36 s | 14.23 s |
| BRISK | | 18.25 s | 16.14 s | 18.68 s | 17.57 s | 16.16 s |
| FAST | | 12.31 s | 11.76 s | 11.84 s | 12.24 s | 12.34 s |
| HARRIS | | 13.57 s | 13.57 s | 12.64 s | 13.57 s | 13.57 s |
| ORB | | | 10.96 s | 8.94 s | 10.89 s | 9.12 s |
| SHI-TOMASI | | 13.24 s | 13.91 s | 13.00 s | 14.24 s | 14.60 s |
| SIFT | | 16.87 s | 16.00 s | 15.78 s | | 16.64 s |

| | |
|-------------|-------|
| ORB / BRIEF | 76.56 |
|-------------|-------|

TTC Camera

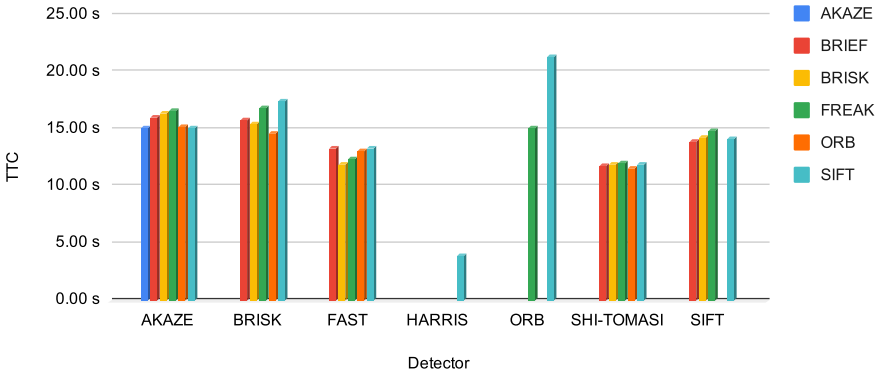


| Frame | 9 | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|
| Detector\Descriptor | AKAZE | BRIEF | BRISK | FREAK | ORB | SIFT |
| AKAZE | 15.14 s | 16.09 s | 16.47 s | 16.68 s | 15.23 s | 15.10 s |
| BRISK | | 15.89 s | 15.47 s | 16.90 s | 14.62 s | 17.53 s |
| FAST | | 13.39 s | 11.96 s | 12.49 s | 13.09 s | 13.32 s |
| HARRIS | | | | | | 3.94 s |
| ORB | | | | 15.10 s | | 21.37 s |
| SHI-TOMASI | | 11.90 s | 11.96 s | 12.13 s | 11.64 s | 11.98 s |
| SIFT | | 13.91 s | 14.27 s | 14.88 s | | 14.15 s |

| | |
|----------------|--------|
| HARRIS / BRIEF | NAN |
| HARRIS / BRISK | NAN |
| HARRIS / FREAK | NAN |
| HARRIS / ORB | NAN |
| ORB / BRIEF | 121.25 |
| ORB / BRISK | 43.39 |
| ORB / ORB | 61.29 |

TTC Camera

Frame : 9

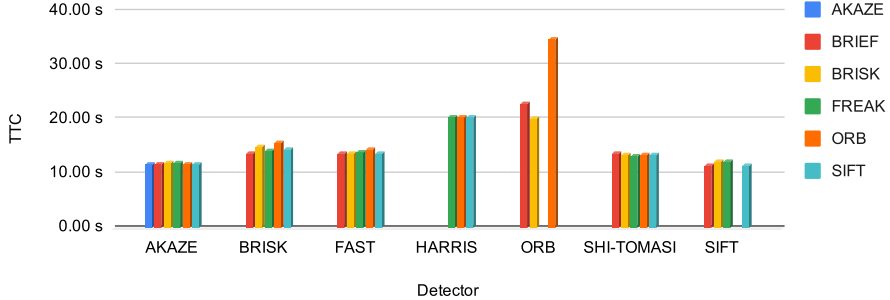


| Frame | 10 | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|
| Detector\Descriptor | AKAZE | BRIEF | BRISK | FREAK | ORB | SIFT |
| AKAZE | 11.71 s | 11.77 s | 11.92 s | 12.03 s | 11.75 s | 11.82 s |
| BRISK | | 13.85 s | 14.99 s | 14.24 s | 15.64 s | 14.56 s |
| FAST | | 13.85 s | 13.75 s | 13.94 s | 14.50 s | 13.86 s |
| HARRIS | | | | 20.59 s | 20.59 s | 20.59 s |
| ORB | | 23.01 s | 20.16 s | | 34.84 s | |
| SHI-TOMASI | | 13.83 s | 13.64 s | 13.21 s | 13.50 s | 13.50 s |
| SIFT | | 11.52 s | 12.21 s | 12.27 s | | 11.55 s |

| | |
|----------------|---------|
| HARRIS / BRIEF | -12.89 |
| HARRIS / BRISK | -inf |
| ORB / FREAK | -243.17 |
| ORB / SIFT | 57.04 |

TTC Camera

Frame : 10



| | | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|
| Frame | 11 | | | | | |
| Detector/Descriptor | AKAZE | BRIEF | BRISK | FREAK | ORB | SIFT |
| AKAZE | 12.71 s | 12.63 s | 12.98 s | 12.81 s | 12.45 s | 12.38 s |
| BRISK | | 14.49 s | 11.84 s | 13.96 s | 13.21 s | 13.46 s |
| FAST | | 13.99 s | | 13.10 s | 14.44 s | 14.35 s |
| HARRIS | | 11.74 s | 11.74 s | 11.74 s | 11.74 s | 11.74 s |
| ORB | | 19.09 s | 8.11 s | 7.96 s | 9.10 s | 8.40 s |
| SHI-TOMASI | | 11.37 s | 11.02 s | 11.14 s | 11.96 s | 11.47 s |
| SIFT | | 13.55 s | 12.97 s | | | 12.40 s |

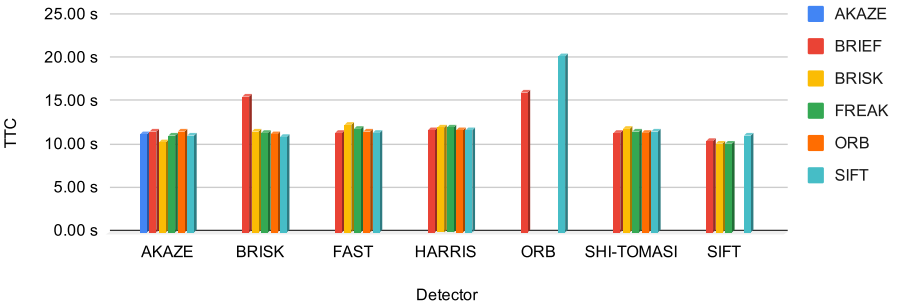


| | | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|
| Frame | 12 | | | | | |
| Detector/Descriptor | AKAZE | BRIEF | BRISK | FREAK | ORB | SIFT |
| AKAZE | 11.37 s | 11.67 s | 10.51 s | 11.27 s | 11.76 s | 11.19 s |
| BRISK | | 15.68 s | 11.65 s | 11.60 s | 11.46 s | 11.17 s |
| FAST | | 11.51 s | 12.45 s | 12.04 s | 11.70 s | 11.52 s |
| HARRIS | | 11.82 s | 12.24 s | 12.24 s | 11.82 s | 11.82 s |
| ORB | | 16.20 s | | | | 20.46 s |
| SHI-TOMASI | | 11.62 s | 12.02 s | 11.73 s | 11.56 s | 11.65 s |
| SIFT | | 10.58 s | 10.30 s | 10.31 s | | 11.31 s |

| | |
|-------------|-------|
| ORB / BRISK | 29.13 |
| ORB / FREAK | 32.09 |
| ORB / BRISK | 37.63 |

TTC Camera

Frame : 12

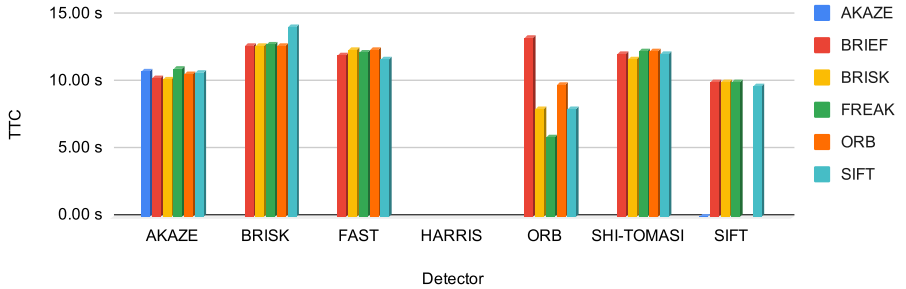


| | | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|
| Frame | 13 | | | | | |
| Detector/Descriptor | AKAZE | BRIEF | BRISK | FREAK | ORB | SIFT |
| AKAZE | 10.79 s | 10.29 s | 10.22 s | 10.99 s | 10.67 s | 10.70 s |
| BRISK | | 12.76 s | 12.77 s | 12.83 s | 12.73 s | 14.13 s |
| FAST | | 12.03 s | 12.48 s | 12.24 s | 12.40 s | 11.72 s |
| HARRIS | | | | | | |
| ORB | | 13.30 s | 7.98 s | 5.92 s | 9.78 s | 8.01 s |
| SHI-TOMASI | | 12.18 s | 11.72 s | 12.38 s | 12.36 s | 12.14 s |
| SIFT | | 10.04 s | 10.02 s | 10.04 s | | 9.77 s |

| | |
|----------------|--------|
| HARRIS / BRIEF | 284.16 |
| HARRIS / BRISK | NAN |
| HARRIS / FREAK | NAN |
| HARRIS / ORB | NAN |
| HARRIS / SIFT | NAN |

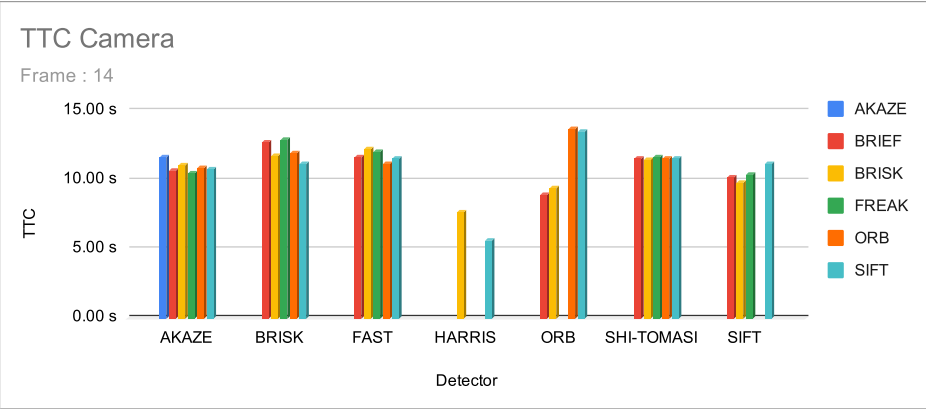
TTC Camera

Frame : 13



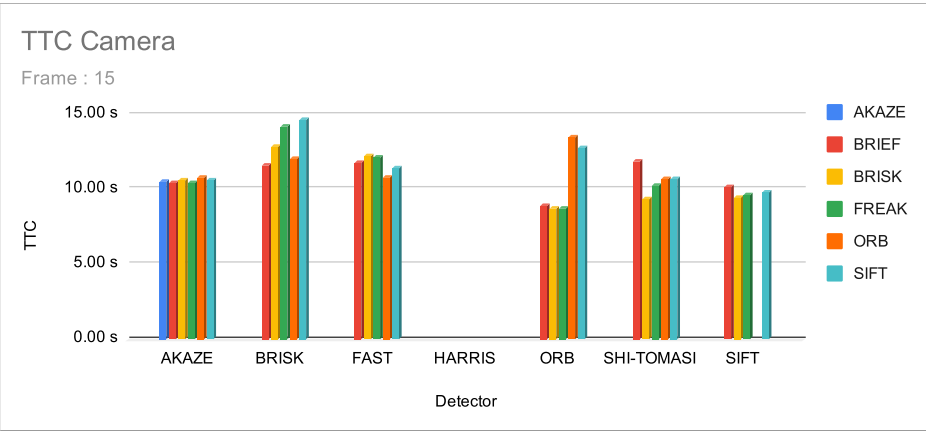
| | | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|
| Frame | 14 | | | | | |
| Detector/Descriptor | AKAZE | BRIEF | BRISK | FREAK | ORB | SIFT |
| AKAZE | 11.72 s | 10.68 s | 11.13 s | 10.52 s | 10.93 s | 10.81 s |
| BRISK | | 12.70 s | 11.81 s | 12.94 s | 11.98 s | 11.17 s |
| FAST | | 11.68 s | 12.24 s | 12.09 s | 11.16 s | 11.60 s |
| HARRIS | | | 7.72 s | | | 5.61 s |
| ORB | | 8.92 s | 9.47 s | | 13.67 s | 13.52 s |
| SHI-TOMASI | | 11.54 s | 11.49 s | 11.65 s | 11.55 s | 11.53 s |
| SIFT | | 10.25 s | 9.78 s | 10.40 s | | 11.22 s |

| | |
|----------------|-------|
| HARRIS / BRIEF | NAN |
| HARRIS / FREAK | NAN |
| HARRIS / ORB | NAN |
| ORB / FREAK | 60.27 |



| | | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|
| Frame | 15 | | | | | |
| Detector/Descriptor | AKAZE | BRIEF | BRISK | FREAK | ORB | SIFT |
| AKAZE | 10.52 s | 10.45 s | 10.58 s | 10.43 s | 10.77 s | 10.63 s |
| BRISK | | 11.62 s | 12.84 s | 14.22 s | 12.04 s | 14.61 s |
| FAST | | 11.80 s | 12.21 s | 12.12 s | 10.77 s | 11.40 s |
| HARRIS | | | | | | |
| ORB | | 8.94 s | 8.74 s | 8.69 s | 13.51 s | 12.74 s |
| SHI-TOMASI | | 11.85 s | 9.36 s | 10.27 s | 10.68 s | 10.68 s |
| SIFT | | 10.12 s | 9.48 s | 9.64 s | | 9.79 s |

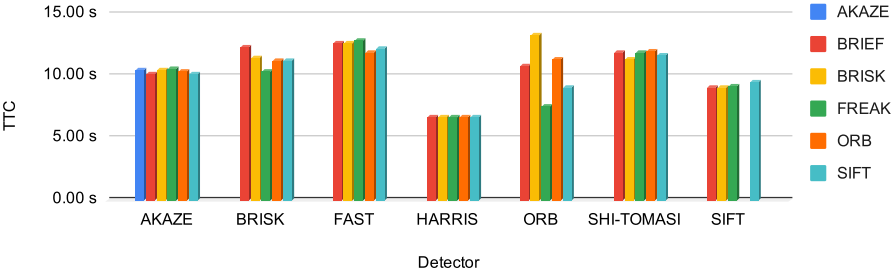
| | |
|----------------|--------|
| HARRIS / BRIEF | -21.25 |
| HARRIS / BRISK | -21.25 |
| HARRIS / FREAK | -25.28 |
| HARRIS / ORB | -13.63 |
| HARRIS / SIFT | -13.63 |



| | | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|
| Frame | 16 | | | | | |
| Detector/Descriptor | AKAZE | BRIEF | BRISK | FREAK | ORB | SIFT |
| AKAZE | 10.45 s | 10.18 s | 10.53 s | 10.54 s | 10.38 s | 10.12 s |
| BRISK | | 12.37 s | 11.46 s | 10.36 s | 11.29 s | 11.20 s |
| FAST | | 12.68 s | 12.63 s | 12.86 s | 11.89 s | 12.23 s |
| HARRIS | | 6.69 s | 6.69 s | 6.69 s | 6.69 s | 6.69 s |
| ORB | | 10.84 s | 13.28 s | 7.59 s | 11.35 s | 9.12 s |
| SHI-TOMASI | | 11.93 s | 11.31 s | 11.87 s | 12.04 s | 11.72 s |
| SIFT | | 9.09 s | 9.11 s | 9.14 s | | 9.46 s |

TTC Camera

Frame : 16

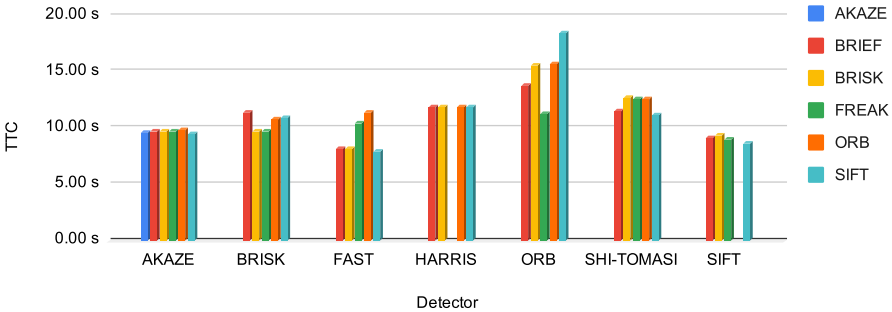


| | | | | | | |
|---------------------|--------|---------|---------|---------|---------|---------|
| Frame | 17 | | | | | |
| Detector/Descriptor | AKAZE | BRIEF | BRISK | FREAK | ORB | SIFT |
| AKAZE | 9.63 s | 9.73 s | 9.68 s | 9.71 s | 9.79 s | 9.46 s |
| BRISK | | 11.38 s | 9.70 s | 9.75 s | 10.76 s | 10.90 s |
| FAST | | 8.18 s | 8.12 s | 10.45 s | 11.42 s | 7.96 s |
| HARRIS | | 11.86 s | 11.86 s | | 11.86 s | 11.86 s |
| ORB | | 13.78 s | 15.53 s | 11.32 s | 15.64 s | 18.51 s |
| SHI-TOMASI | | 11.56 s | 12.68 s | 12.64 s | 12.61 s | 11.18 s |
| SIFT | | 9.12 s | 9.36 s | 8.98 s | | 8.67 s |

HARRIS / FREAK NAN

TTC Camera

Frame : 17



| | | | | | | |
|---------------------|--------|---------|---------|---------|---------|---------|
| Frame | 18 | | | | | |
| Detector/Descriptor | AKAZE | BRIEF | BRISK | FREAK | ORB | SIFT |
| AKAZE | 9.48 s | 9.71 s | 9.39 s | 9.41 s | 9.81 s | 9.70 s |
| BRISK | | 11.82 s | 11.53 s | 12.27 s | 12.64 s | 11.80 s |
| FAST | | 12.34 s | 11.95 s | 12.04 s | 12.30 s | 10.88 s |
| HARRIS | | | | | | |
| ORB | | 21.02 s | 29.89 s | 8.14 s | 30.08 s | 19.85 s |
| SHI-TOMASI | | 9.28 s | 10.73 s | 10.71 s | 8.99 s | 9.84 s |
| SIFT | | 8.92 s | 9.49 s | 9.71 s | | 8.84 s |

| | |
|----------------|------|
| HARRIS / BRIEF | -INF |
| HARRIS / BRISK | -INF |
| HARRIS / FREAK | NAN |
| HARRIS / ORB | -INF |
| HARRIS / SIFT | -INF |

TTC Camera

Frame : 18

