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| **Some benchmark of MOT2015 (test)** | | | | |
| RANK | Algorithm | MOTA | IDsw | Average FPS |
| 1 | [KCF](https://motchallenge.net/tracker/KCF) | 38.9 ± 14.5 | 720 (13.9) | 0.3 |
| … | … | … | … | … |
| 15 | [DCCRF](https://motchallenge.net/tracker/DCCRF) | 33.6 ± 11.0 | 866 (19.4) | 0.1 |
| … | … | … | … | … |
| 26 | MDP | 30.3 ± 14.6 | 680 | 1.1 |
| … | … | … | … | … |
| 41 | DAC\_min | 26.1 ± 13.5 | 506 | 11.6 |
| … | … | … | … | … |
| 60 | LP2D | 19.8 ± 14.2 | 1649 | 112.1 |
| … | … | … | … | … |
| 71 | GSCRR | 15.8 ± 10.5 | 514 | 28.1 |
| … | … | … | … | … |

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| **FULL TABLE(YOLOv3\_tiny + Deep SORT)** | | | |
| Algorithm | MOTA | IDsw | Average FPS |
| Vanilla YOLOv3 Tiny + Deep SORT | 33.6% | 635 | 9.997820328723746 |
| YOLOv3 Tiny + Deep SORT with Down Sampling | 32.9% | 651 | 11.996064715800753 |
| … |  |  |  |
| YOLOv3 Tiny + Deep SORT with 1 Skip Frame | 30.7% | 570 | 16.56956741670473 |
| YOLOv3 Tiny + Deep SORT with 1 Skip Frame and Down Sampling | 30.0% | 577 | 20.99549490626117 |
| YOLOv3 Tiny + Deep SORT with 1 Skip Frame and Probability Driven | 31.0% | 594 | 17.757431631657468 |
| YOLOv3 Tiny + Deep SORT with 1 Skip Frame and Probability Driven and Down Sampling | 30.4% | 601 | 19.84908451201911 |
| … |  |  |  |
| YOLOv3 Tiny + Deep SORT with 2 Skip Frame | 26.3% | 581 | 20.68914912740483 |
| YOLOv3 Tiny + Deep SORT with 2 Skip Frame and Down Sampling | 25.6% | 538 | 25.16089209909558 |
| YOLOv3 Tiny + Deep SORT with 2 Skip Frame and Probability Driven | 28.2% | 581 | 21.671446463250184 |
| YOLOv3 Tiny + Deep SORT with 2 Skip Frame and Probability Driven and Down Sampling | 27.2% | 561 | 22.40254902085448 |
| … |  |  |  |
| YOLOv3 Tiny + Deep SORT with 4 Skip Frame | 17.4% | 858 | 30.685362182060103 |
| YOLOv3 Tiny + Deep SORT with 4 Skip Frame and Down Sampling | 17.3% | 826 | 32.71531749075337 |
| YOLOv3 Tiny + Deep SORT with 4 Skip Frame and Probability Driven | 22.0% | 778 | 26.27376224976722 |
| YOLOv3 Tiny + Deep SORT with 4 Skip Frame and Probability Driven and Down Sampling | 21.5% | 721 | 28.642976056106697 |
| … |  |  |  |
| YOLOv3 Tiny + Deep SORT with 6 Skip Frame | 11.5% | 809 | 35.487960011851555 |
| YOLOv3 Tiny + Deep SORT with 6 Skip Frame and Down Sampling | 11.1% | 821 | 36.79384991372523 |
| YOLOv3 Tiny + Deep SORT with 6 Skip Frame and Probability Driven | 17.7% | 758 | 28.440129230784574 |
| YOLOv3 Tiny + Deep SORT with 6 Skip Frame and Probability Driven and Down Sampling | 17.2% | 760 | 30.637051555246025 |
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| **Tradeoff of Down Sampling** | | | |
| Algorithm | MOTA | IDsw | Average FPS |
| Vanilla YOLOv3 Tiny + Deep SORT | 33.6% | 635 | 9.997820328723746 |
| YOLOv3 Tiny + Deep SORT with Down Sampling | 32.9% | 651 | 11.996064715800753 |
| YOLOv3 Tiny + Deep SORT with 1 Skip Frame | 30.7% | 570 | 16.56956741670473 |
| YOLOv3 Tiny + Deep SORT with 1 Skip Frame and Down Sampling | 30.0% | 577 | 20.99549490626117 |
| YOLOv3 Tiny + Deep SORT with 2 Skip Frame | 26.3% | 581 | 20.68914912740483 |
| YOLOv3 Tiny + Deep SORT with 2 Skip Frame and Down Sampling | 25.6% | 538 | 25.16089209909558 |
| YOLOv3 Tiny + Deep SORT with 4 Skip Frame | 17.4% | 858 | 30.685362182060103 |
| YOLOv3 Tiny + Deep SORT with 4 Skip Frame and Down Sampling | 17.3% | 826 | 32.71531749075337 |
| YOLOv3 Tiny + Deep SORT with 6 Skip Frame | 11.5% | 809 | 35.487960011851555 |
| YOLOv3 Tiny + Deep SORT with 6 Skip Frame and Down Sampling | 11.1% | 821 | 36.79384991372523 |
|  |  |  |  |

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| --- | --- | --- | --- |
| **Tradeoff of Skipping Frame** | | | |
| Algorithm | MOTA | IDsw | Average FPS |
| Vanilla YOLOv3 Tiny + Deep SORT | 33.6% | 635 | 9.997820328723746 |
| YOLOv3 Tiny + Deep SORT with 1 Skip Frame | 30.7% | 570 | 16.56956741670473 |
| YOLOv3 Tiny + Deep SORT with 2 Skip Frame | 26.3% | 581 | 20.68914912740483 |
| YOLOv3 Tiny + Deep SORT with 4 Skip Frame | 17.4% | 858 | 30.685362182060103 |
| YOLOv3 Tiny + Deep SORT with 4 Skip Frame and Down Sampling | 17.3% | 826 | 32.71531749075337 |
| YOLOv3 Tiny + Deep SORT with 6 Skip Frame | 11.5% | 809 | 35.487960011851555 |
|  |  |  |  |

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| **Tradeoff of Using probability Driven Detection** | | | |
| Algorithm | MOTA | IDsw | Average FPS |
| Vanilla YOLOv3 Tiny + Deep SORT | 33.6% | 635 | 9.997820328723746 |
| YOLOv3 Tiny + Deep SORT with 1 Skip Frame | 30.7% | 570 | 18.56956741670473 |
| YOLOv3 Tiny + Deep SORT with 1 Skip Frame and Probability Driven | 31.0% | 594 | 17.757431631657468 |
| YOLOv3 Tiny + Deep SORT with 2 Skip Frame | 26.3% | 581 | 22.68914912740483 |
| YOLOv3 Tiny + Deep SORT with 2 Skip Frame and Probability Driven | 28.2% | 581 | 21.671446463250184 |
| YOLOv3 Tiny + Deep SORT with 4 Skip Frame | 17.4% | 858 | 30.685362182060103 |
| YOLOv3 Tiny + Deep SORT with 4 Skip Frame and Probability Driven | 22.0% | 778 | 26.27376224976722 |
| YOLOv3 Tiny + Deep SORT with 6 Skip Frame | 11.5% | 809 | 35.487960011851555 |
| YOLOv3 Tiny + Deep SORT with 6 Skip Frame and Probability Driven | 17.7% | 758 | 28.440129230784574 |
|  |  |  |  |