

A F1 SCORE BY ACTIVITIES FOR EACH ALGORITHMS

We report here the recognition performance for the 3 datasets per algorithm and per activity. This annex gives an insight which activities could account for the difference of performance.

Table 6: F1-Score by activity for each algorithm on Aruba dataset

| | ELMoAR | GPTAR | ELMoHAR | GPTHAR | ELMoHAR + time | GPTHAR + time |
|-------------------------|--------|-------|---------|--------|----------------|---------------|
| Bed_to_Toilet | 0,987 | 0,996 | 0,991 | 0,992 | 0,992 | 0,996 |
| Eating | 0,925 | 0,935 | 0,937 | 0,948 | 0,932 | 0,936 |
| Enter_Home | 0,8 | 0,797 | 0,992 | 0,994 | 0,99 | 0,992 |
| Housekeeping | 0,83 | 0,84 | 0,829 | 0,907 | 0,852 | 0,918 |
| Leave_Home | 0,827 | 0,811 | 0,992 | 0,992 | 0,99 | 0,99 |
| Meal_Preparation | 0,974 | 0,971 | 0,972 | 0,968 | 0,971 | 0,964 |
| Other | 0,988 | 0,99 | 0,99 | 0,99 | 0,99 | 0,99 |
| Relax | 0,99 | 0,99 | 0,991 | 0,993 | 0,994 | 0,992 |
| Respirate | 0,867 | 0,967 | 0,651 | 0,502 | 0,967 | 0,548 |
| Sleeping | 0,988 | 0,99 | 0,982 | 0,984 | 0,991 | 0,981 |
| Wash_Dishes | 0,008 | 0,047 | 0,266 | 0,243 | 0,225 | 0,199 |
| Work | 0,984 | 0,993 | 0,979 | 0,987 | 0,985 | 0,975 |

Table 7: F1-Score by activity for each algorithm on Milan dataset

| | ELMoAR | GPTAR | ELMoHAR | GPTHAR | ELMoHAR + time | GPTHAR + time |
|--------------------------------|--------|-------|---------|--------|----------------|---------------|
| Bed_to_Toilet | 0,551 | 0,532 | 0,79 | 0,749 | 0,845 | 0,902 |
| Chores | 0 | 0,011 | 0,088 | 0,122 | 0,15 | 0,161 |
| Desk_Activity | 0,976 | 0,996 | 0,952 | 0,982 | 0,958 | 0,976 |
| Dining_Rm_Activity | 0,416 | 0,252 | 0,516 | 0,481 | 0,491 | 0,522 |
| Eve_Meds | 0 | 0,095 | 0,421 | 0,587 | 0,566 | 0,545 |
| Guest_Bathroom | 0,978 | 0,981 | 0,979 | 0,98 | 0,98 | 0,984 |
| Kitchen_Activity | 0,91 | 0,919 | 0,93 | 0,936 | 0,927 | 0,931 |
| Leave_Home | 0,901 | 0,911 | 0,934 | 0,952 | 0,941 | 0,957 |
| Master_Bathroom | 0,884 | 0,858 | 0,942 | 0,943 | 0,968 | 0,977 |
| Master_Bedroom_Activity | 0,788 | 0,792 | 0,799 | 0,836 | 0,836 | 0,872 |
| Meditate | 0,86 | 0,874 | 0,863 | 0,933 | 0,866 | 0,972 |
| Morning_Meds | 0,58 | 0,546 | 0,642 | 0,669 | 0,698 | 0,712 |
| Other | 0,888 | 0,9 | 0,906 | 0,92 | 0,909 | 0,924 |
| Read | 0,92 | 0,946 | 0,917 | 0,947 | 0,914 | 0,953 |
| Sleep | 0,897 | 0,921 | 0,927 | 0,925 | 0,943 | 0,932 |
| Watch_TV | 0,767 | 0,778 | 0,782 | 0,807 | 0,789 | 0,806 |

Table 8: F1-Score by activity for each algorithm on Cairo dataset

| | ELMoAR | GPTAR | ELMoHAR | GPTHAR | ELMoHAR + time | GPTHAR + time |
|--------------------------|--------|-------|---------|--------|----------------|---------------|
| Bed_to_toilet | 0,382 | 0,359 | 0,374 | 0,483 | 0,545 | 0,311 |
| Breakfast | 0,533 | 0,61 | 0,822 | 0,89 | 0,886 | 0,94 |
| Dinner | 0,415 | 0,412 | 0,711 | 0,713 | 0,961 | 0,991 |
| Laundry | 0,911 | 1 | 0,309 | 0,951 | 0,358 | 0,794 |
| Leave_home | 0,938 | 0,958 | 0,891 | 0,97 | 0,895 | 0,973 |
| Lunch | 0,337 | 0,331 | 0,609 | 0,67 | 0,912 | 0,929 |
| Night_wandering | 0,759 | 0,795 | 0,805 | 0,829 | 0,823 | 0,837 |
| Other | 0,915 | 0,923 | 0,948 | 0,968 | 0,955 | 0,977 |
| R1_sleep | 0,702 | 0,629 | 0,852 | 0,868 | 0,897 | 0,877 |
| R1_wake | 0,871 | 0,899 | 0,903 | 0,906 | 0,895 | 0,909 |
| R1_work_in_office | 0,853 | 0,939 | 0,918 | 0,985 | 0,92 | 0,991 |
| R2_sleep | 0,706 | 0,715 | 0,824 | 0,857 | 0,856 | 0,863 |
| R2_take_medicine | 0,781 | 0,913 | 0,859 | 0,94 | 0,87 | 0,931 |
| R2_wake | 0,745 | 0,746 | 0,799 | 0,821 | 0,852 | 0,87 |