

Results

MET regression

The results of the configured Random Forest and XGBoost models from chapter ‘MET Regression Models’ are shown here. In ***table #*** you can find the results of both models for every activity. The R-Squared score after applying K-fold Cross Validation was calculated, this was applied on the training and validation data set. Afterwards, the test set was applied on the final model and calculated the R² coefficient (3.2.4.3.2. sklearn.ensemble.RandomForestRegressor — scikit-learn 0.23.2 documentation, z.d.) and Mean Squared Error (MSE). These results were compared to pick the most optimal model for a specific activity.

Activity	Random Forest	Random Forest Test		XGBoost	XGBoost Test	
	<i>K-fold Cross Validation R^2</i>	<i>R^2</i>	<i>MSE</i>	<i>K-fold Cross Validation R^2</i>	<i>R^2</i>	<i>MSE</i>
Walking	0.40 (+/- 0.15)	0.40	0.65	0.32 (+/- 0.12)	0.29	0.70
Running	0.60 (+/- 0.20)	0.58	1.57	0.63 (+/- 0.15)	0.45	1.80
Cycling Light	0.41 (+/- 0.28)	-0.70	1.78	0.41 (+/- 0.23)	-1.03	1.95
Cycling Heavy	-0.39 (+/- 1.18)	0.02	1.67	0.12 (+/- 0.59)	-0.08	1.23
Note: Model comparison between Random Forest and XGBoost						