

Forward selection

Assume d features available in dataset: $|F_{Unsel}| == d$

Optional: target number of selected features k

Set of selected features initially empty: $F_{Sel} = \emptyset$

Best feature set score initially 0: $ScoreBest = 0$

Do

Best next feature initially null: $F_{Best} = \emptyset$

For each feature $F \in F_{Unsel}$

Form a trial set of features $F_{Trial} = F_{Sel} + F$

Run wrapper algorithm, using only features F_{trial}

If $score(F_{Trial}) > scoreBest$

$F_{Best} = F; \quad scoreBest = score(F_{Trial})$

If $F_{Best} \neq \emptyset$

$F_{Sel} = F_{Sel} + F_{Best}, \quad F_{Unsel} = F_{Unsel} - F_{Best}$

Until $F_{Best} == \emptyset$ or $F_{Unsel} == \emptyset$ or $|F_{Sel}| == k$

Return F_{Sel}