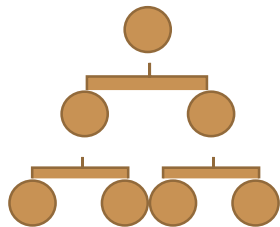


Step Backward Feature Selection

Step Backward Feature Selection

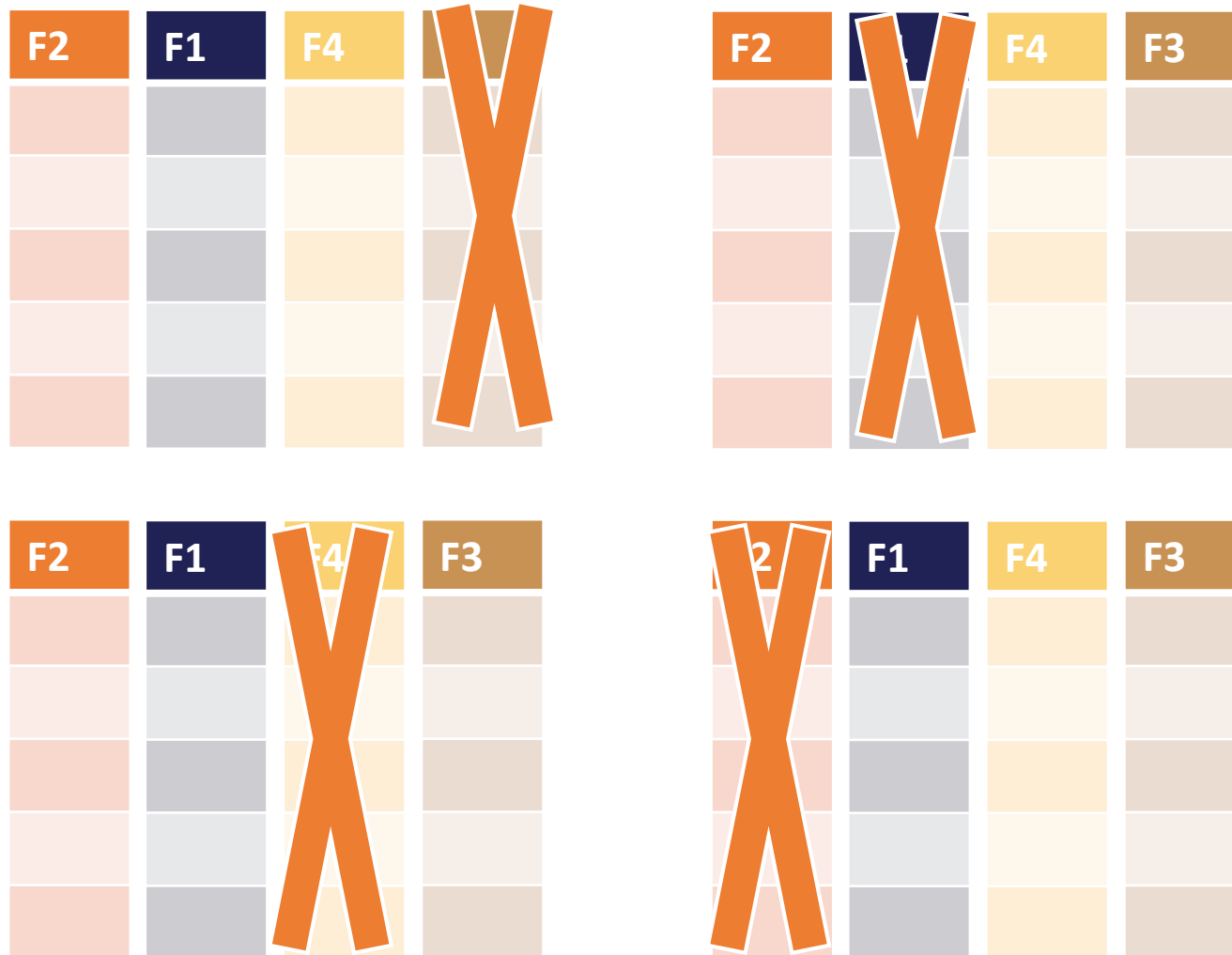
F2	F1	F4	F3



Roc-auc
0.77

- Model with all features: 4 features

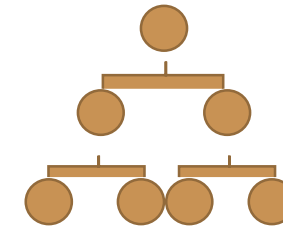
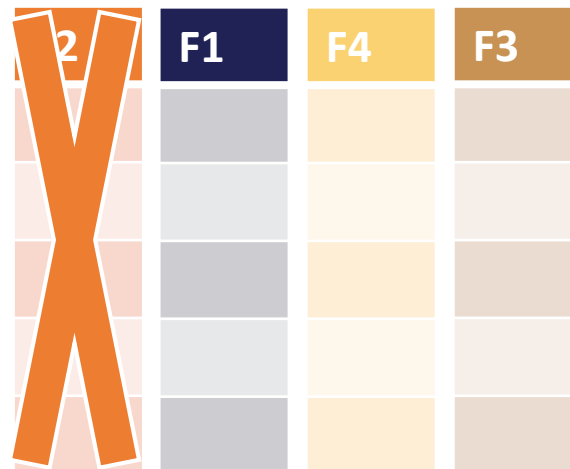
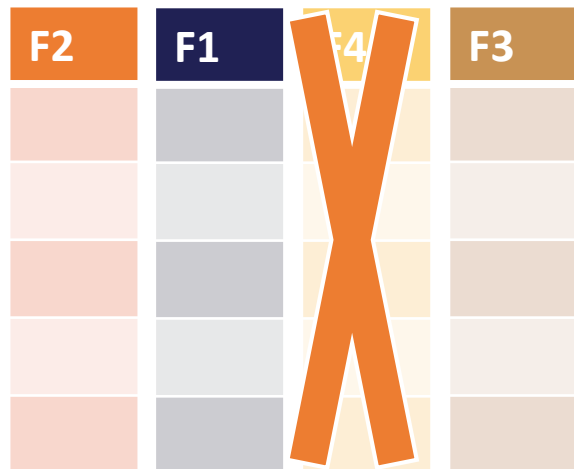
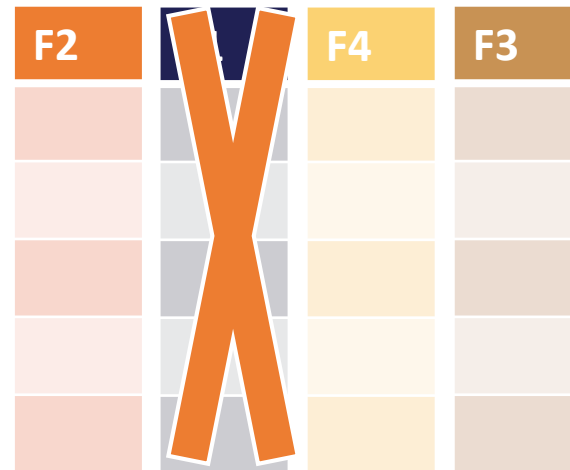
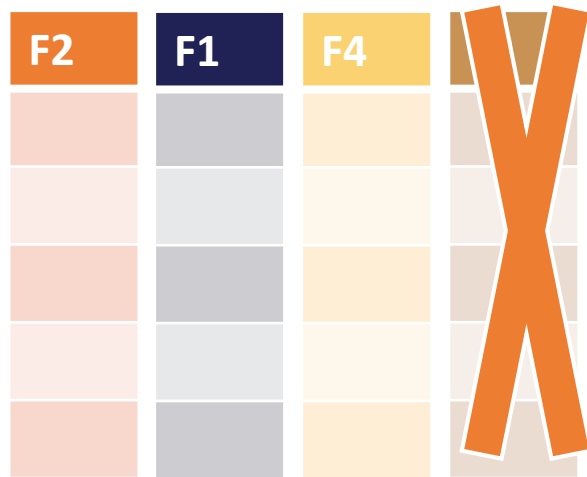
Step Backward Feature Selection



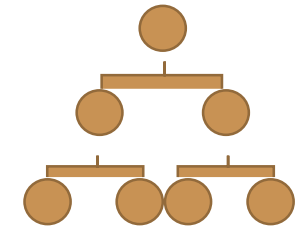
- Remove 1 feature:
 - All possible models with 3 features



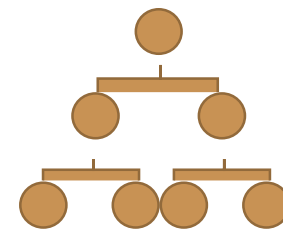
Step Backward Feature Selection



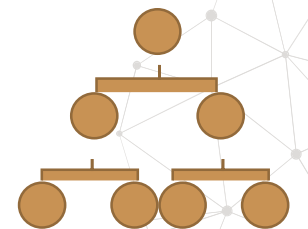
Roc-auc
0.76



Roc-auc
0.77

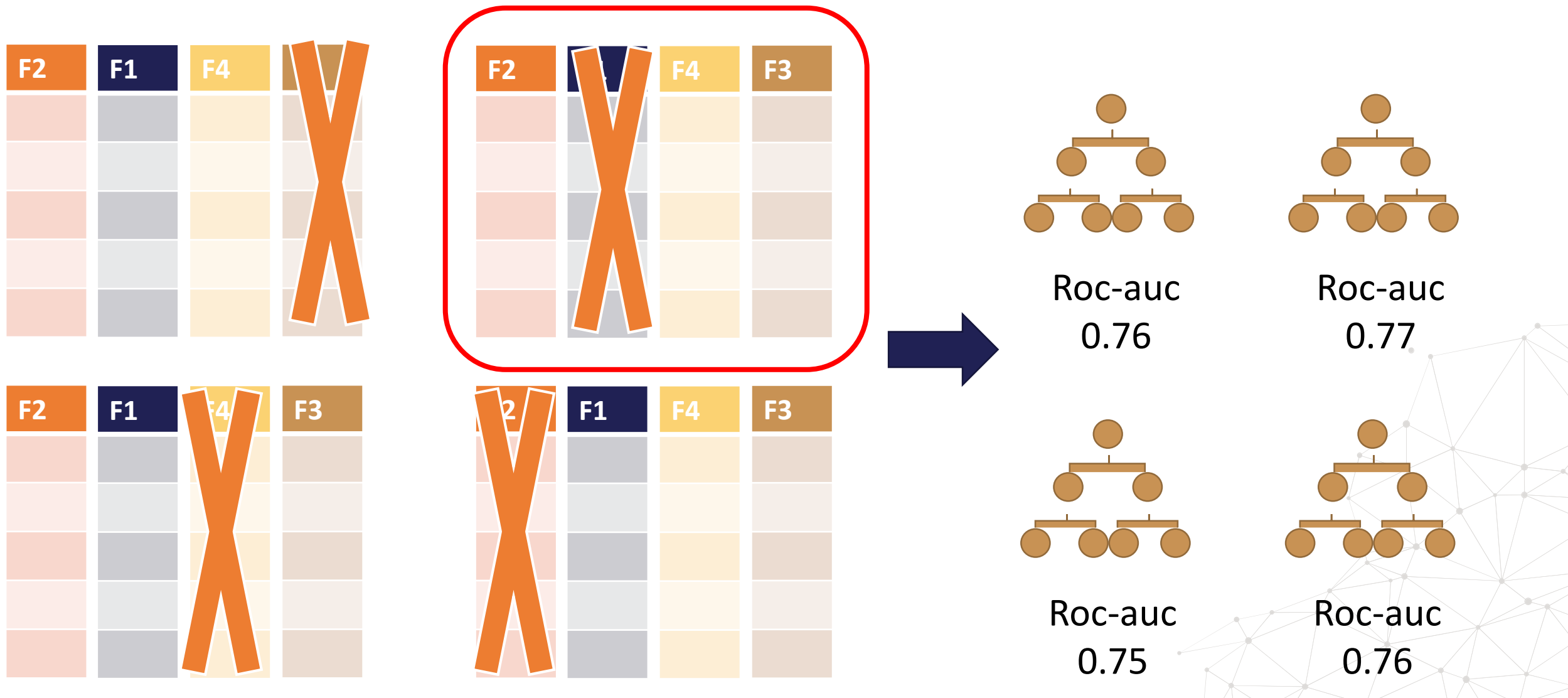


Roc-auc
0.75

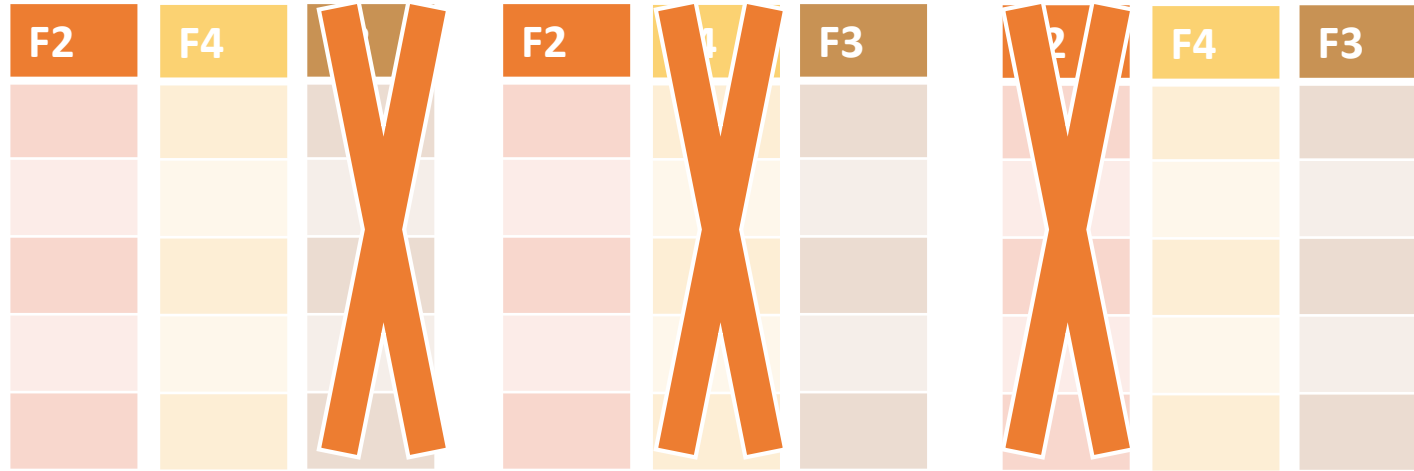


Roc-auc
0.76

Step Backward Feature Selection

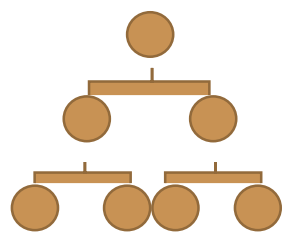
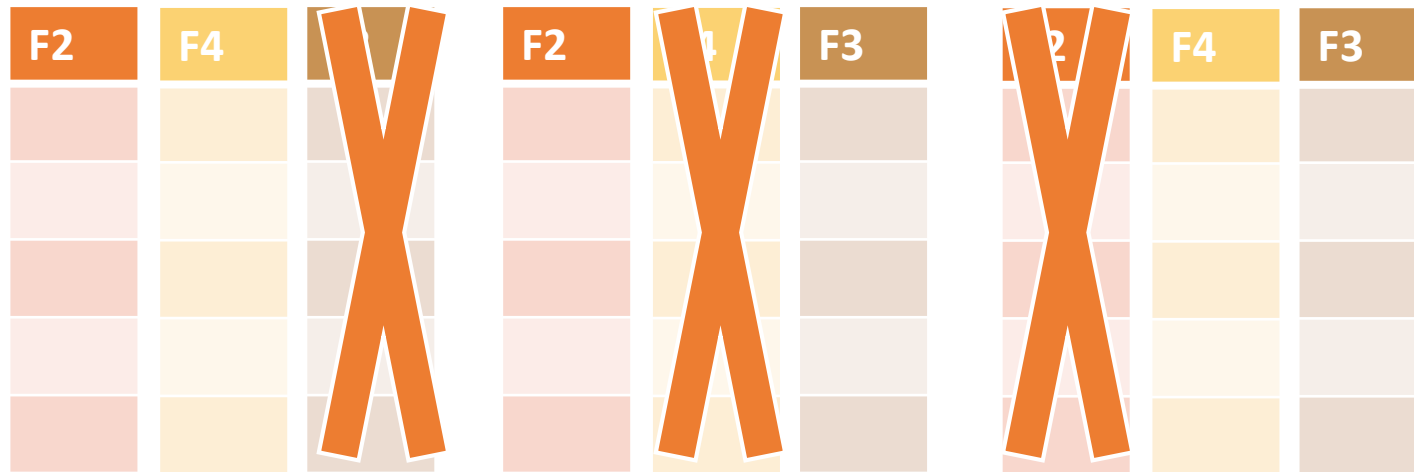


Step Backward Feature Selection

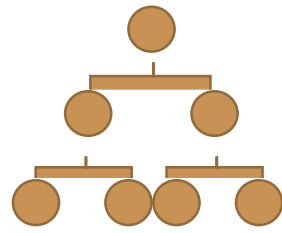


- **Remove 1 feature:**
 - All possible models with 2 features

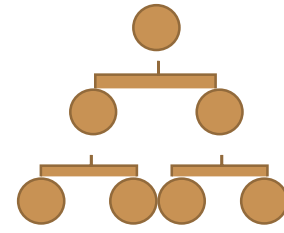
Step Backward Feature Selection



Roc-auc
0.76

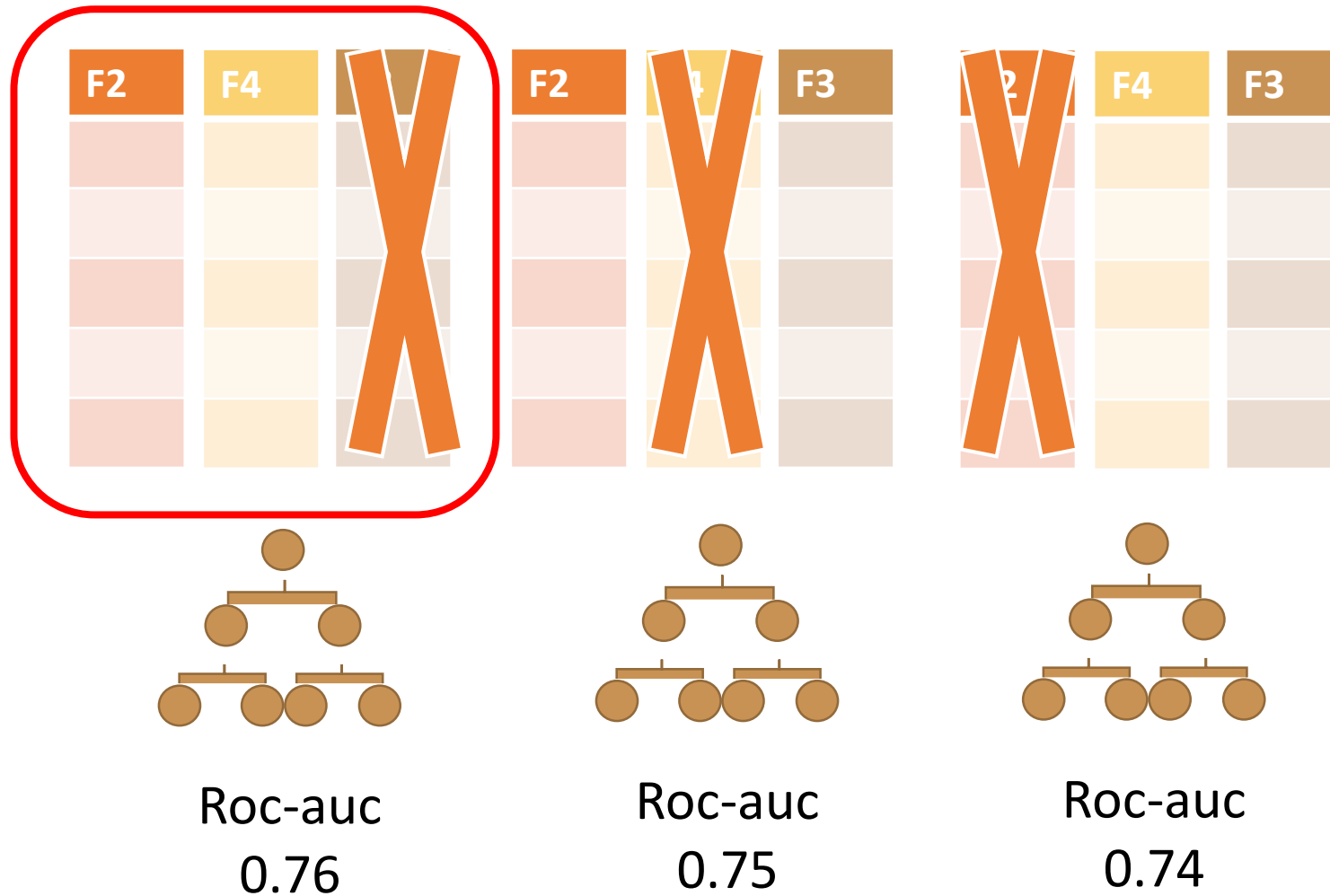


Roc-auc
0.75

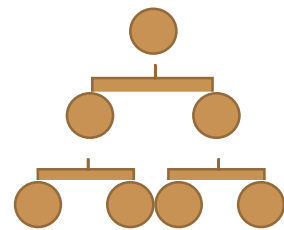
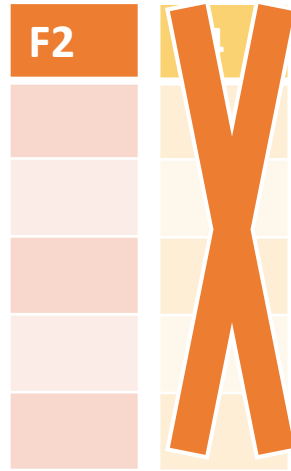


Roc-auc
0.74

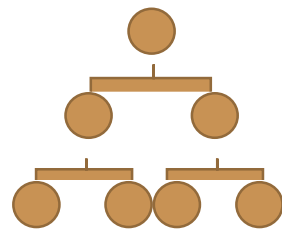
Step Backward Feature Selection



Step Backward Feature Selection



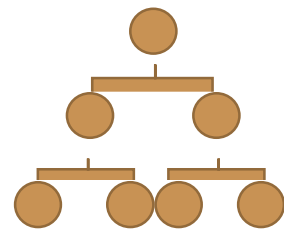
Roc-auc
0.72



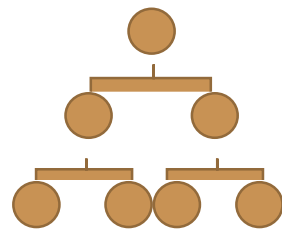
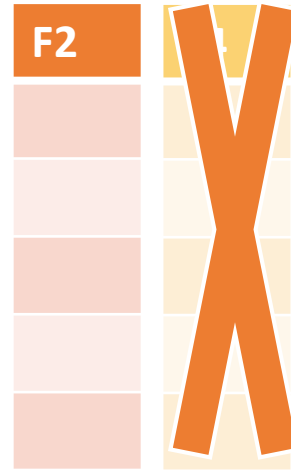
Roc-auc
0.73

- Remove 1 feature:
 - All possible models with 1 feature

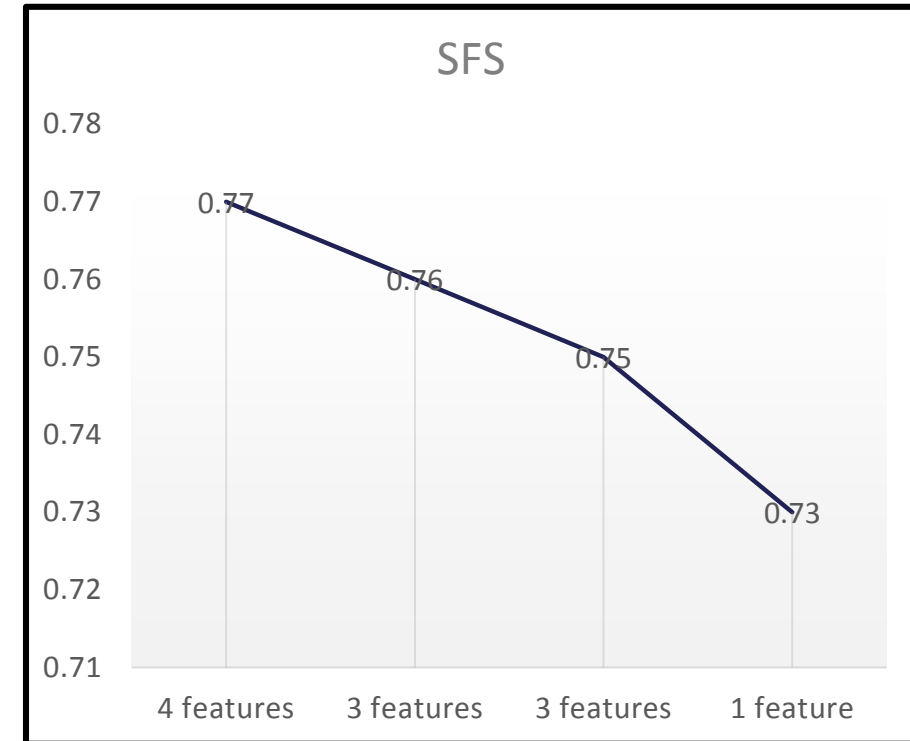
Step Backward Feature Selection



Roc-auc
0.72



Roc-auc
0.73



When to stop the search

- **Ideal:** When performance does not **decrease** beyond a threshold
 - ✓ Threshold to be defined by the user
- **MLXtend implementation:** when certain number of features is reached
 - ✓ Number of features defined by the user

THANK YOU

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