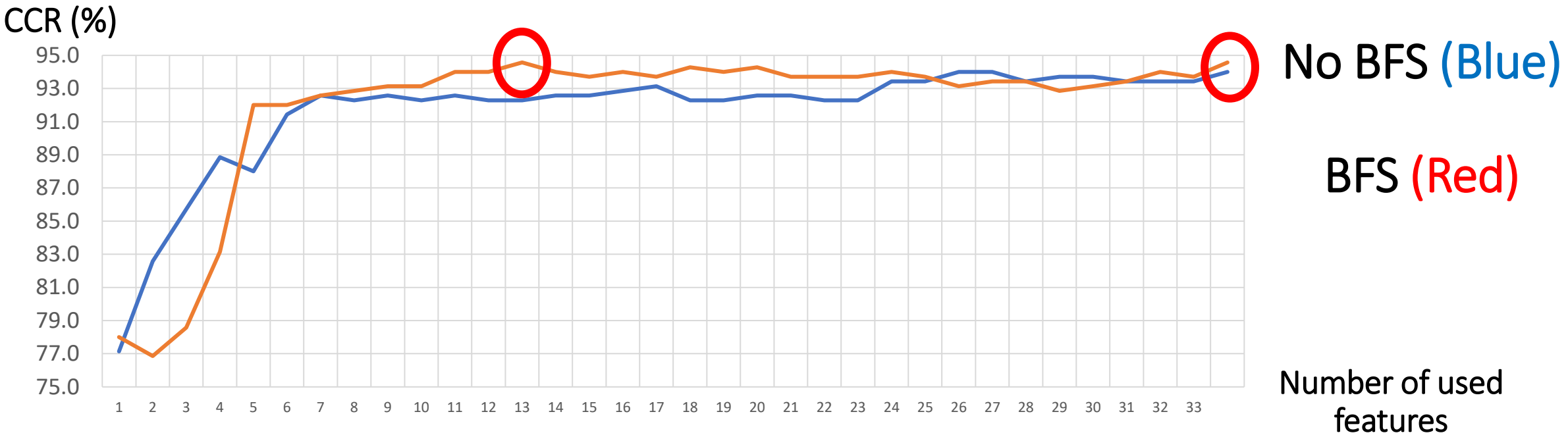
Application of methodology to 2-class data

	Correct Classification Rate (%)	Number of used feature	Feature reduction rate	Remark
SVM	94.0	33	0.0	
SVM+BFS	94.6	13	60.6	Feature selection
SVM+BFS+FE	100.0	4	87.9	Feature Extraction

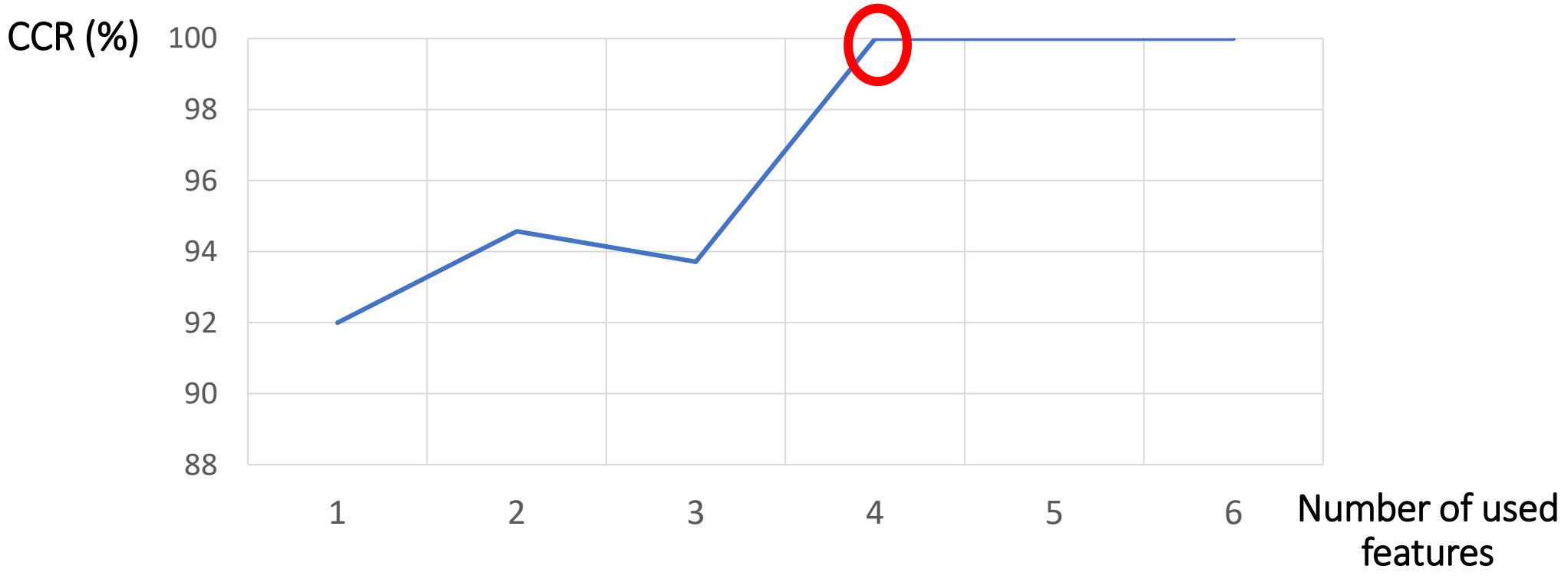
- The methodology is applied to Ionosphere data (2-class, 33 features, 351 instances)
- Boosted feature selection increased CCR by 0.6% with 61% feature reduction
- By further feature extraction (K-means clustering + Fuzzy membership function), CCR reached to 100 % by using 4 extracted features.

BFS(Boosted Feature Selection) vs. No BFS



- Features are rearranged in descending order of distance between classes among misclassified instances.
- BFS shows higher CCR (by 0.6%) with 61% reduced features. (from 33 to 13)

Methodology in dissertation: BFS + Feature extraction



- The methodology in dissertation is applied to Ionosphere data except for class-dedicated SVM.
- 3 clusters (Class 1) and 3 clusters (Class 2) are detected.
- It shows CCR 100% with 4 extracted features. (Feature reduction rate: 88%)