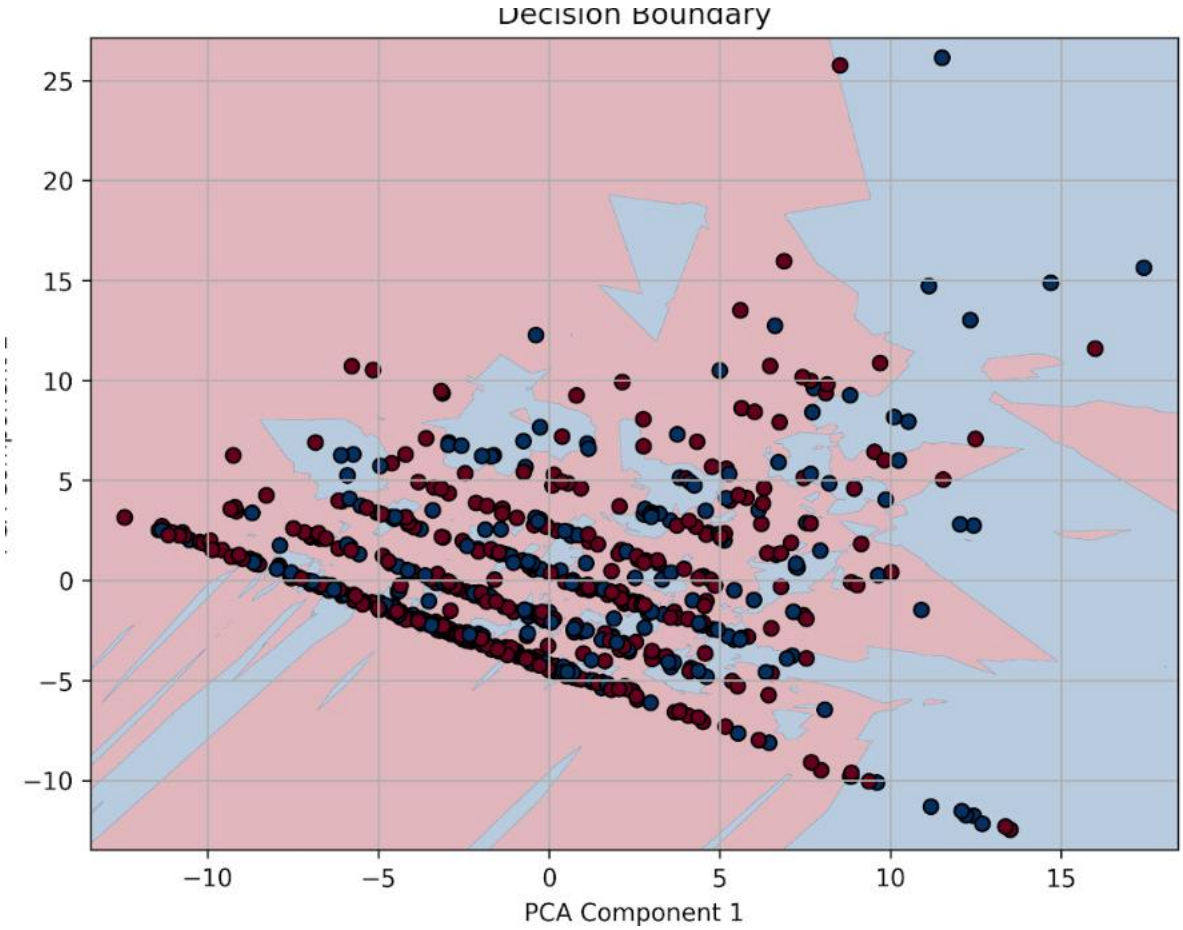
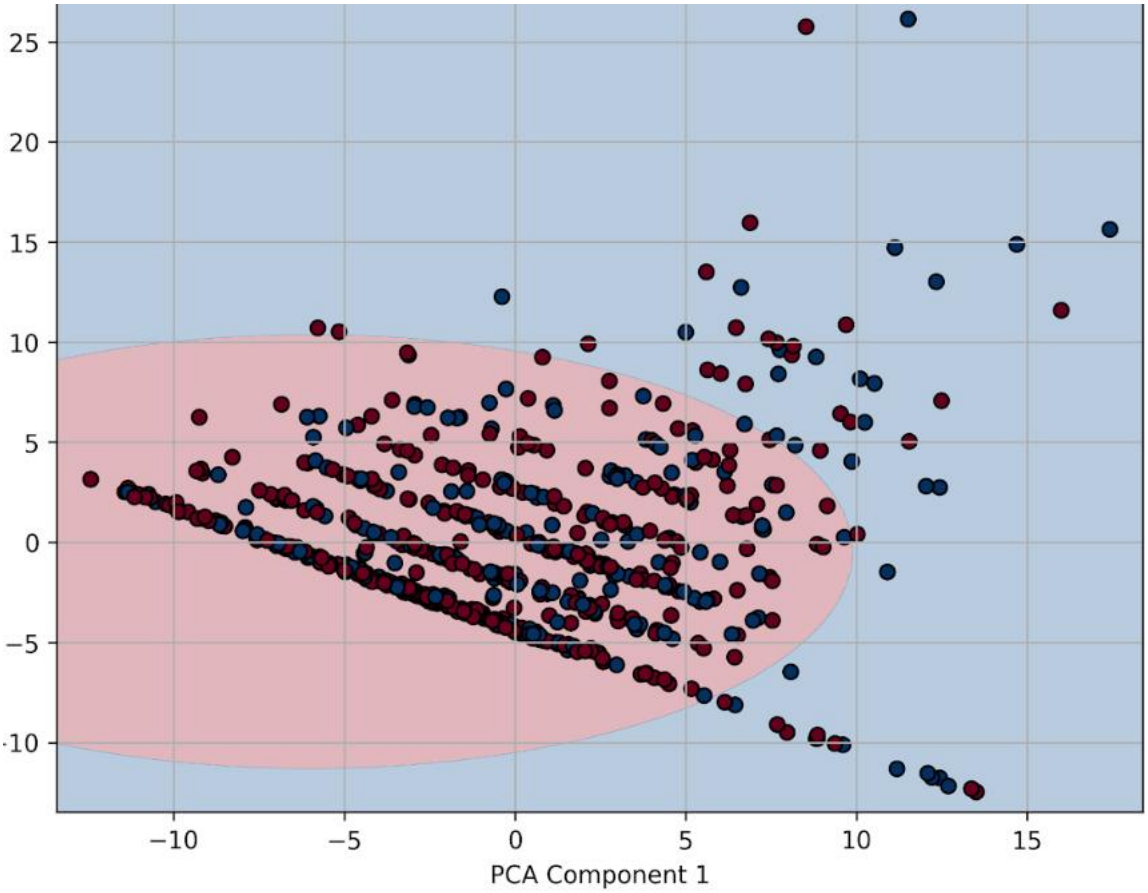
PLOTS

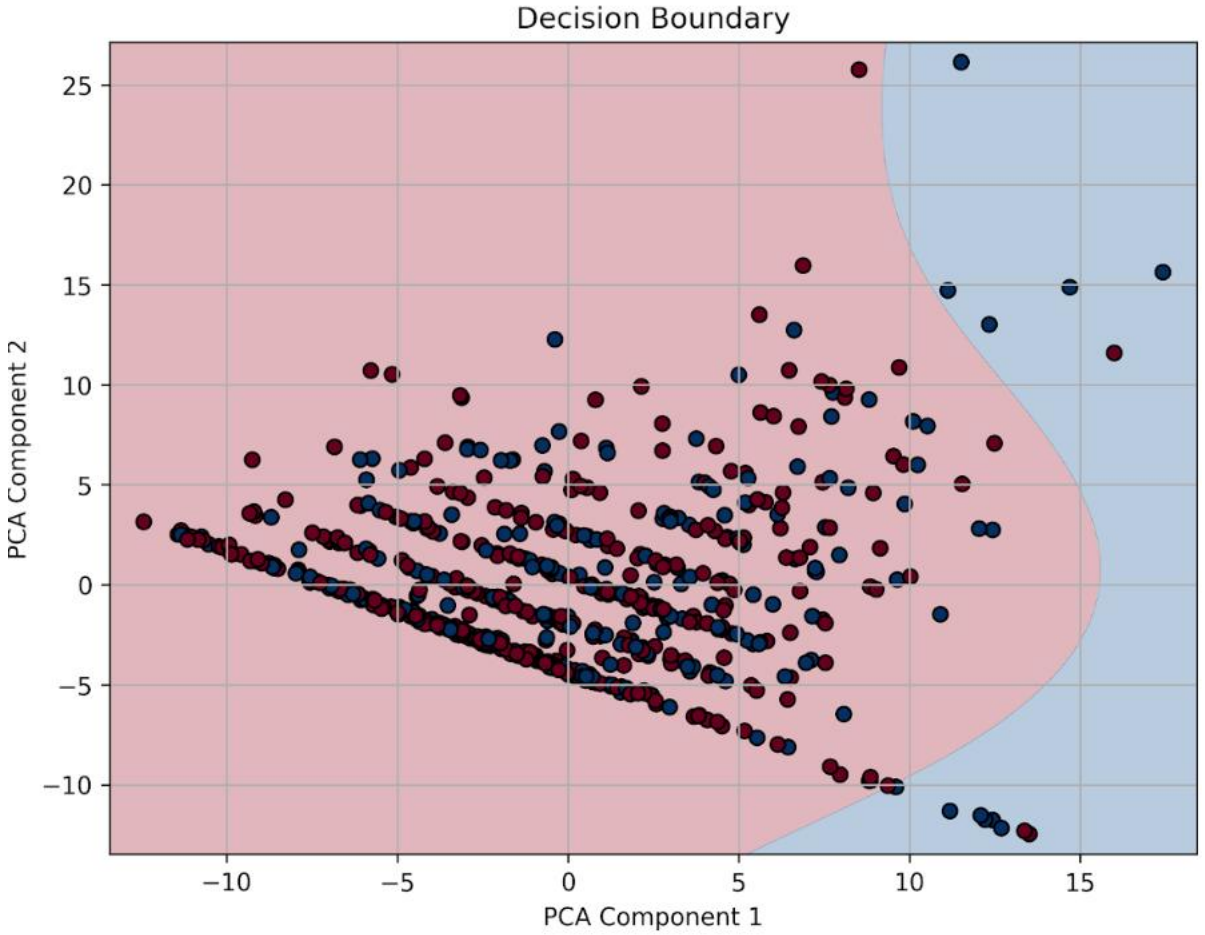


This PLOT 5 is likely from a **K-Nearest Neighbors (KNN)** model. The boundary is very irregular and broken into many small regions, which happens because KNN looks at nearby points to decide the class. It doesn't learn a smooth or global rule, so the decision area is messy and very local.

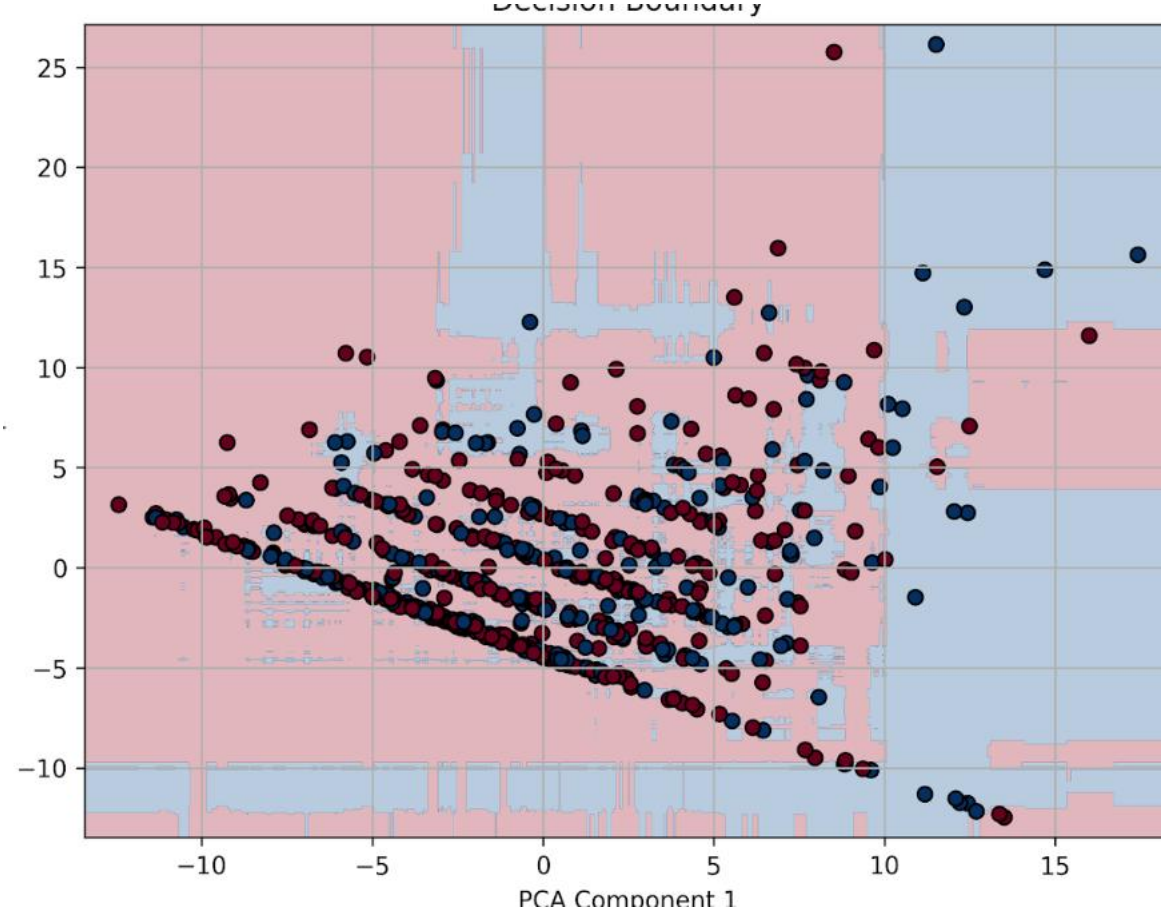


This PLOT 4 is from a **Naive Bayes** classifier. The decision boundary is smooth and elliptical, which is typical of Gaussian Naive Bayes. It assumes features are normally distributed and independent, leading to simple, rounded regions like this. It’s definitely not from a tree-based model like Random Forest or

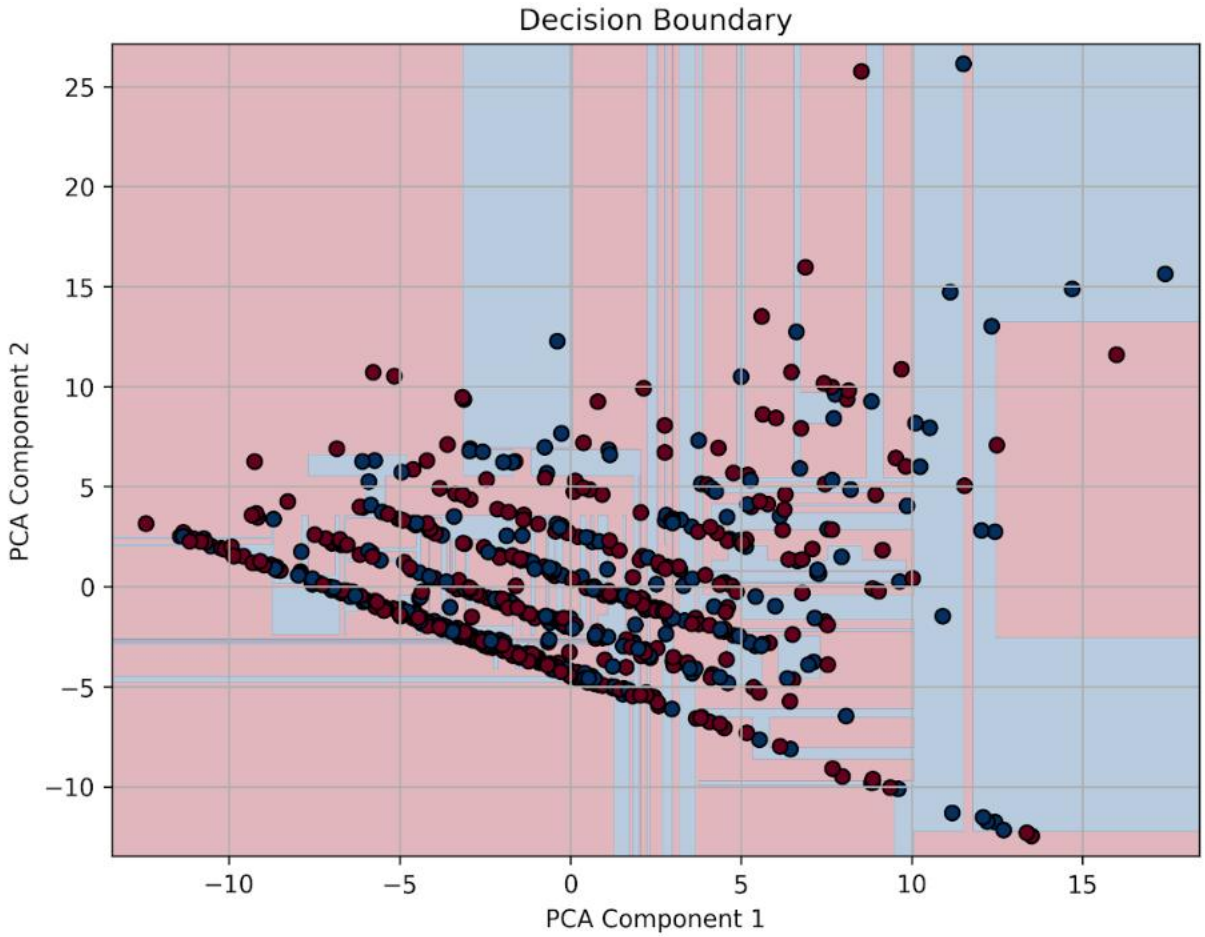
Decision Tree, which produce boxy or jagged boundaries.



This PLOT 3 was likely generated by a **logistic regression** model. The decision boundary is smooth and mostly linear but slightly curved, which is typical when logistic regression is applied after PCA or with some feature interaction. It shows a simple, global separation without complex shapes, suggesting a linear model.



The decision boundary shown in PLOT 2 exhibits a highly irregular and fragmented structure, characterized by numerous small, detailed regions where the classification switches frequently between classes. The background forms a mosaic-like pattern rather than smooth transitions, which is a strong visual indication of overfitting. Such complex, non-linear, and patchy decision regions are typical of a Decision Tree classifier.



This PLOT 1 was generated by a **Decision Tree** classifier. The decision boundaries are sharp, axis-aligned, and form rectangular regions, which is characteristic of how decision trees split data using simple threshold rules on features.