MATLAB'de
SINIFLANDIRMA

HAZIRLAYAN

BÜŞRA GÜLEÇ

2022

MATLAB'de SINIFLANDIRMA

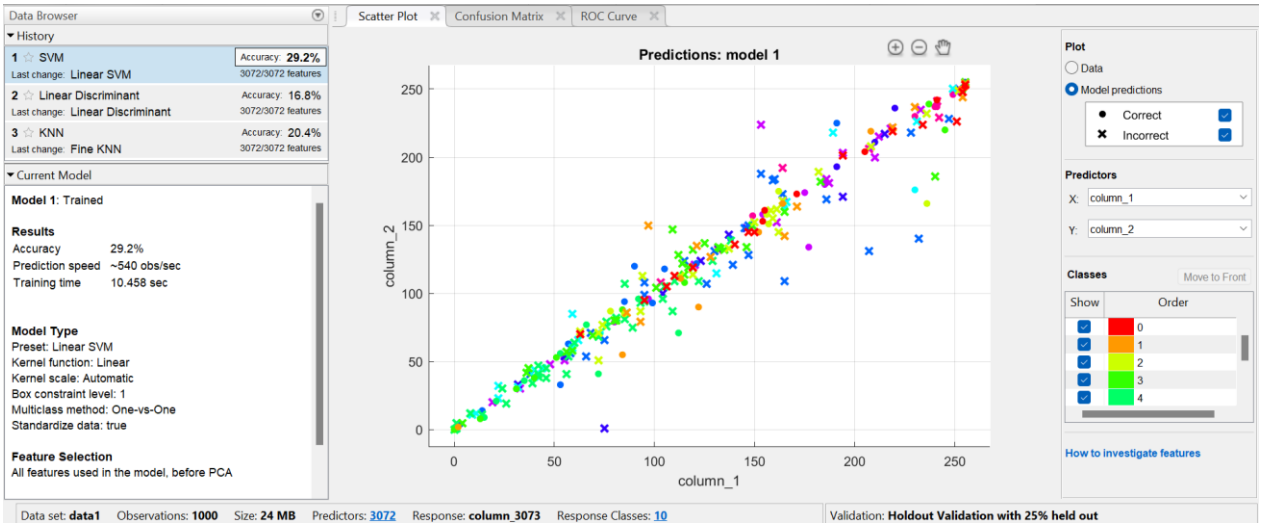
```
Command Window
>> data=data(6001:7000,:);
labels=labels(6001:7000);
      data=[data labels]
data=double(data)
```

Resim 1. Yazılan kod

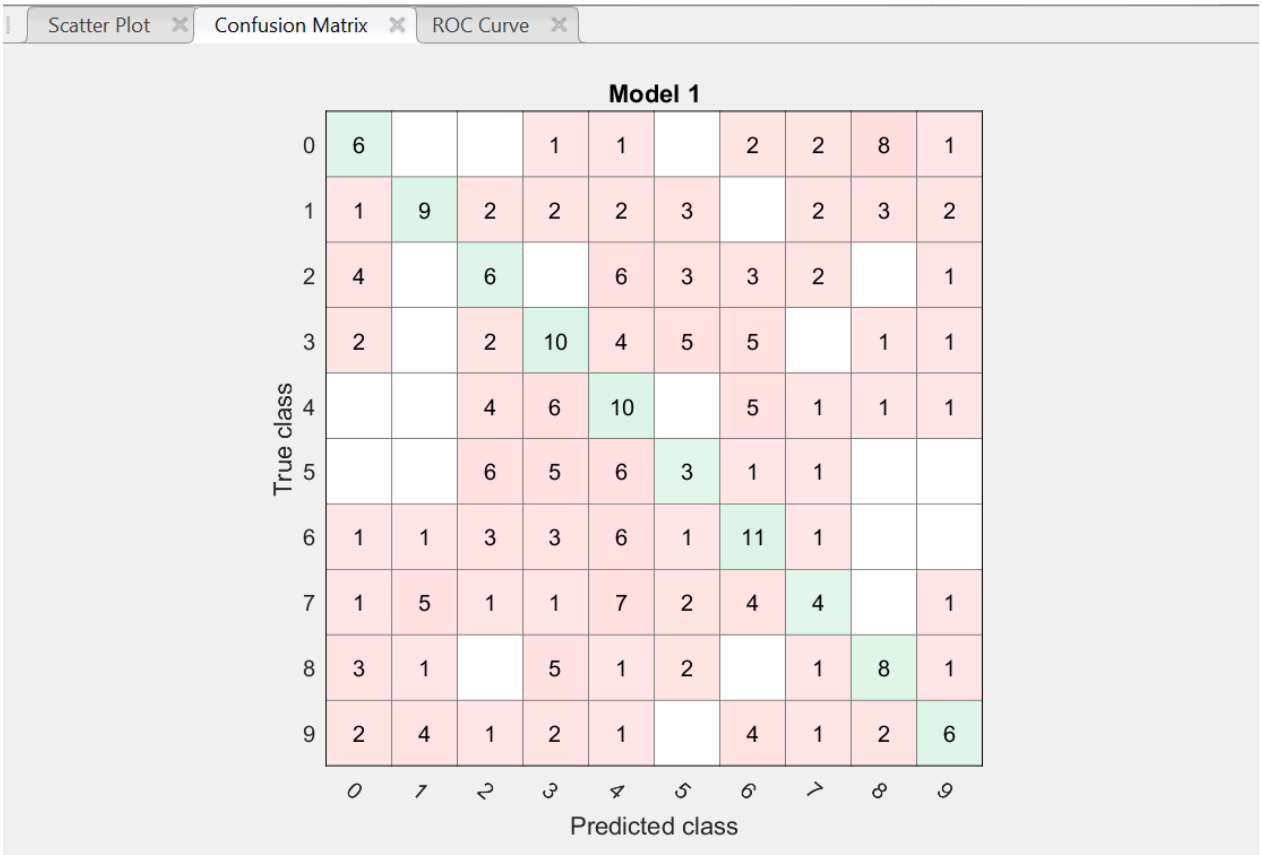
CIFAR10 veri setini kullandık. Resim 1. de verilen kodu Classification Learner kullanarak veri setindeki her bir Data Batch için sınıflandırma işlemi yaptık.

Tablo 1. Data Batch 1 için bulunan değerler.

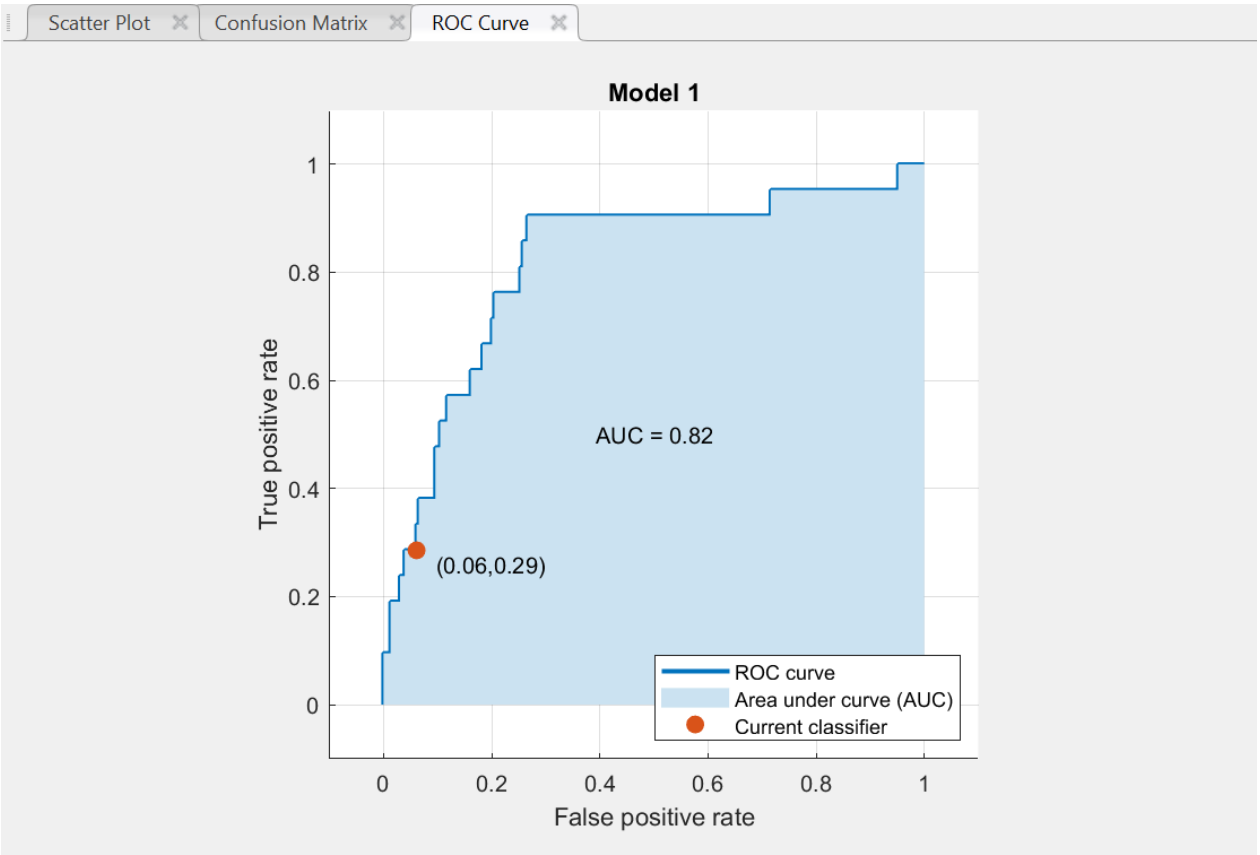
Algoritma	Veri Seti Bölümü	Accuracy	
Linear SVM	Data Batch1 İlk 1000 ham veri	29.2	
Linear Discriminant	Data Batch1	16.8	
Fine KNN	6000-7000 ham veri	20.4	
	Data Batch1		



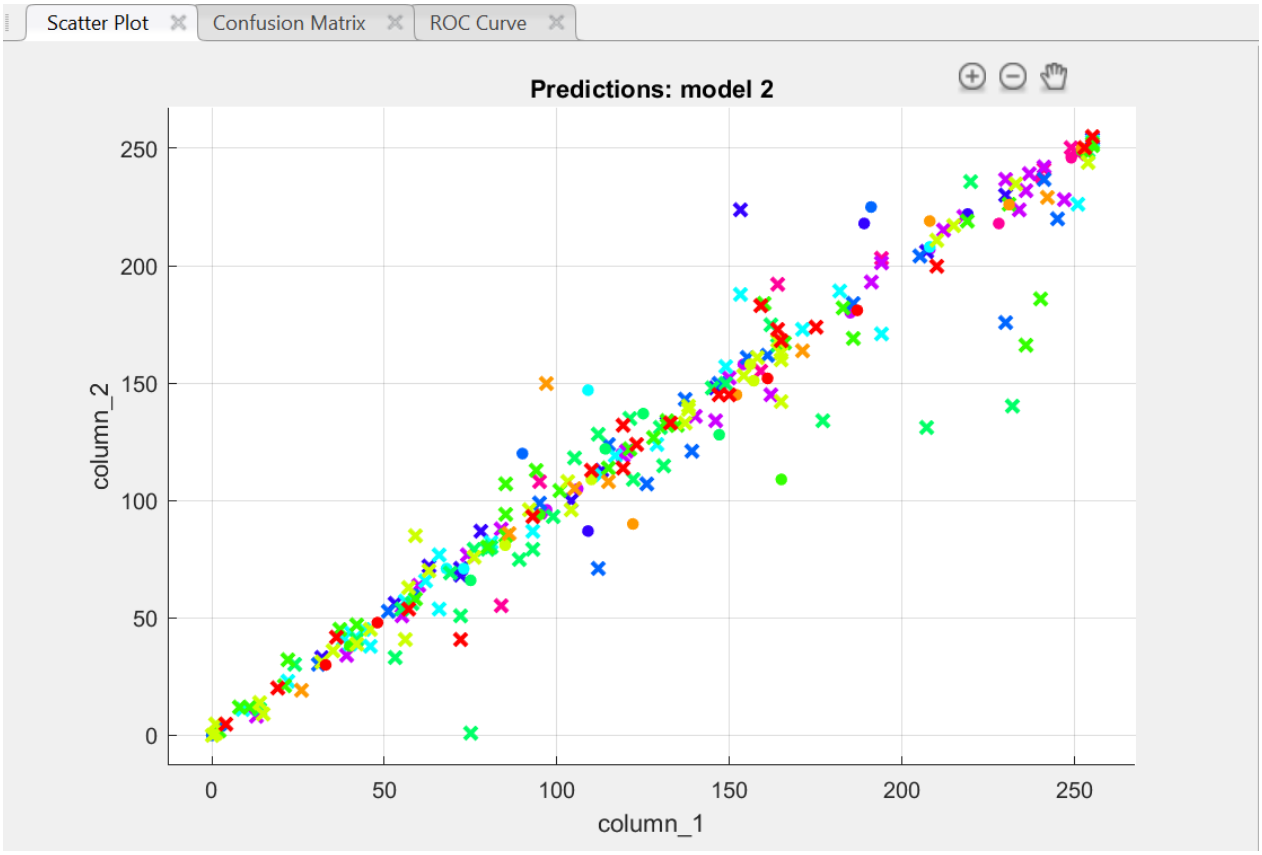
Resim 2. Data Batch 1-Lineear SVM-Dağılım Grafiği



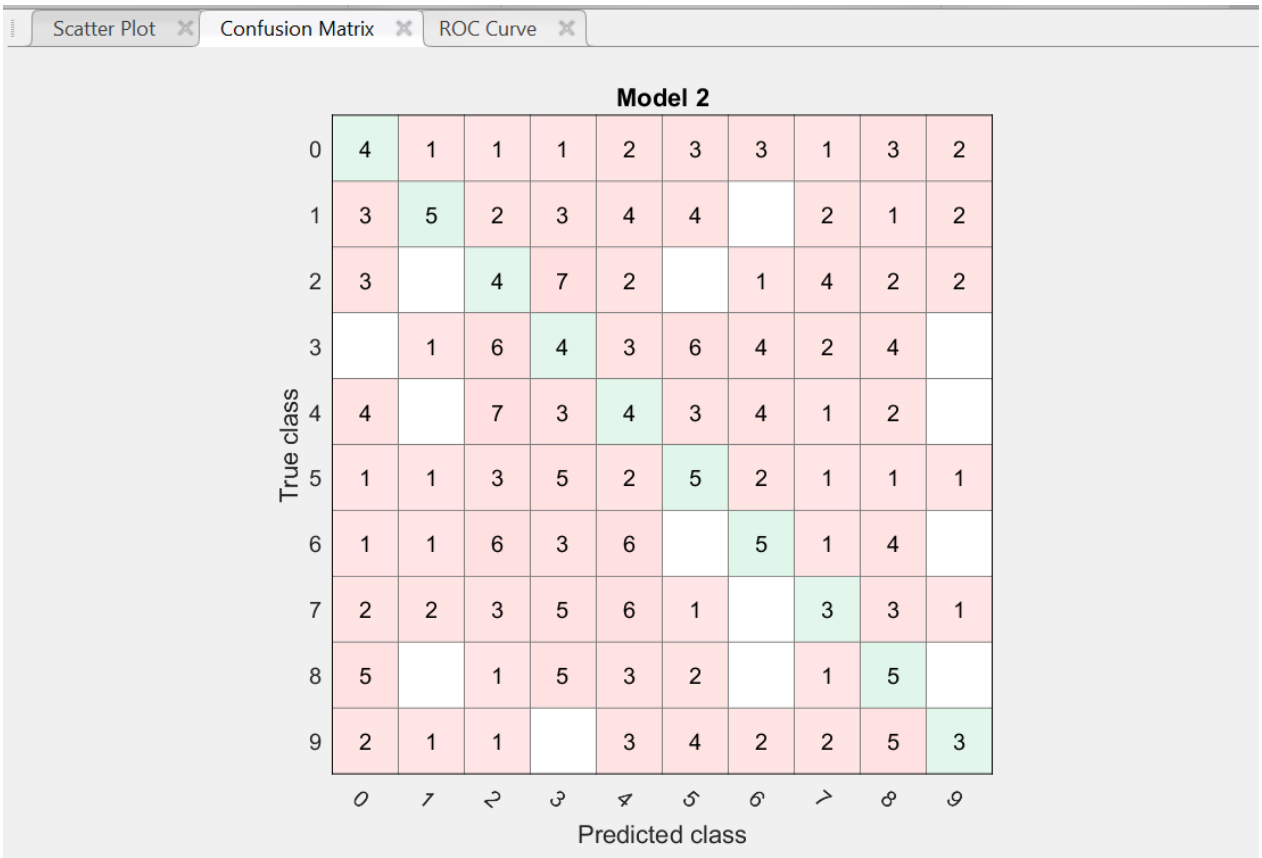
Resim 3. Data Batch 1-Lineear SVM-Confuzyon Matrisi



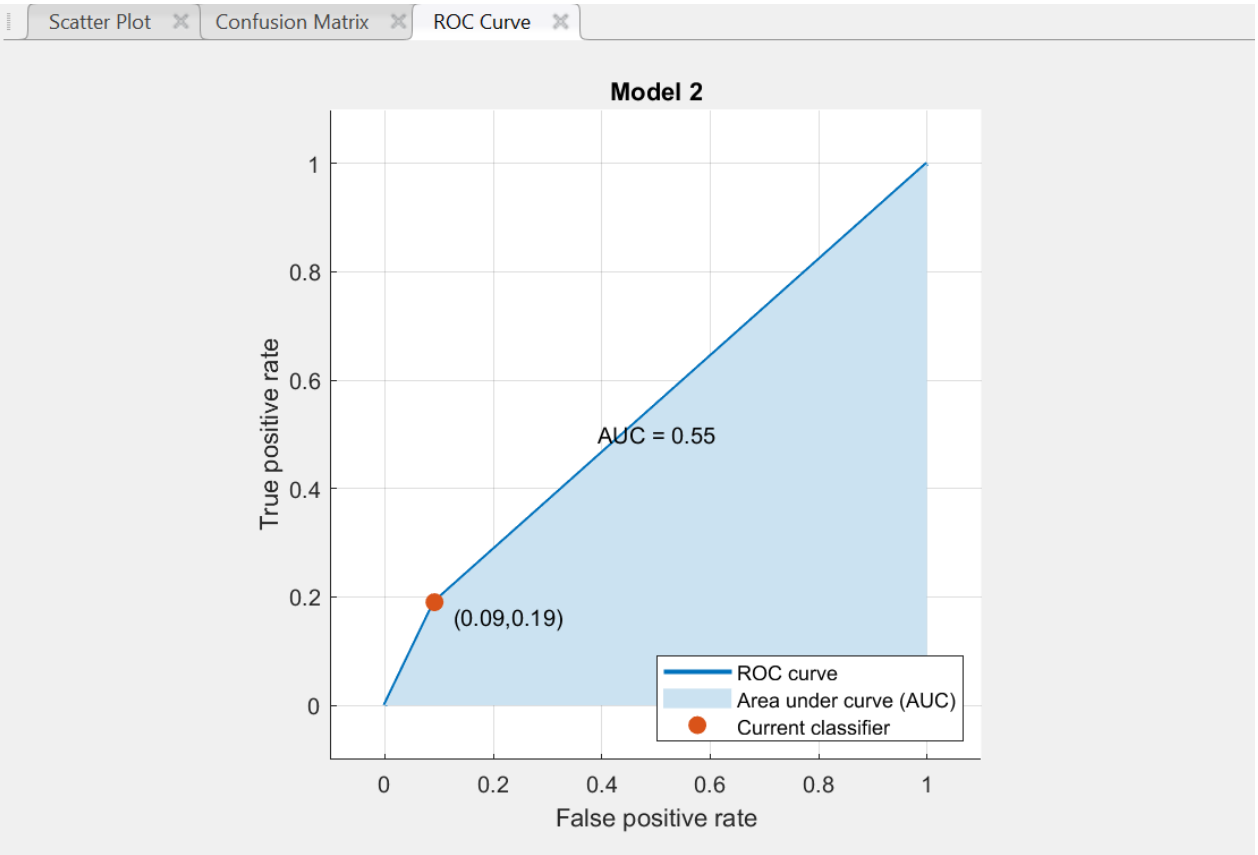
Resim 4. Data Batch 1-Lineear SVM-ROC Eğrisi



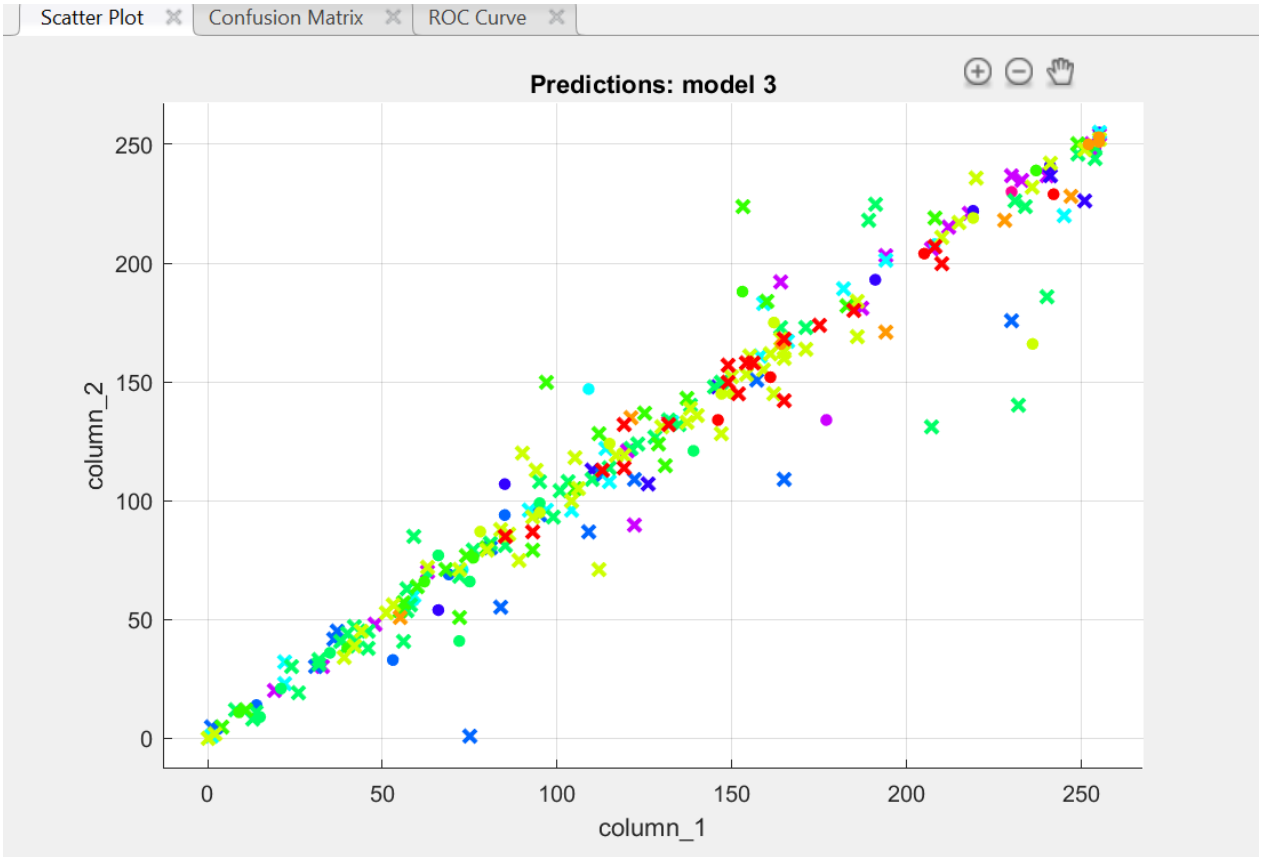
Resim 5. Data Batch 1-Lineear Discriminant-Dağılım Grafiği



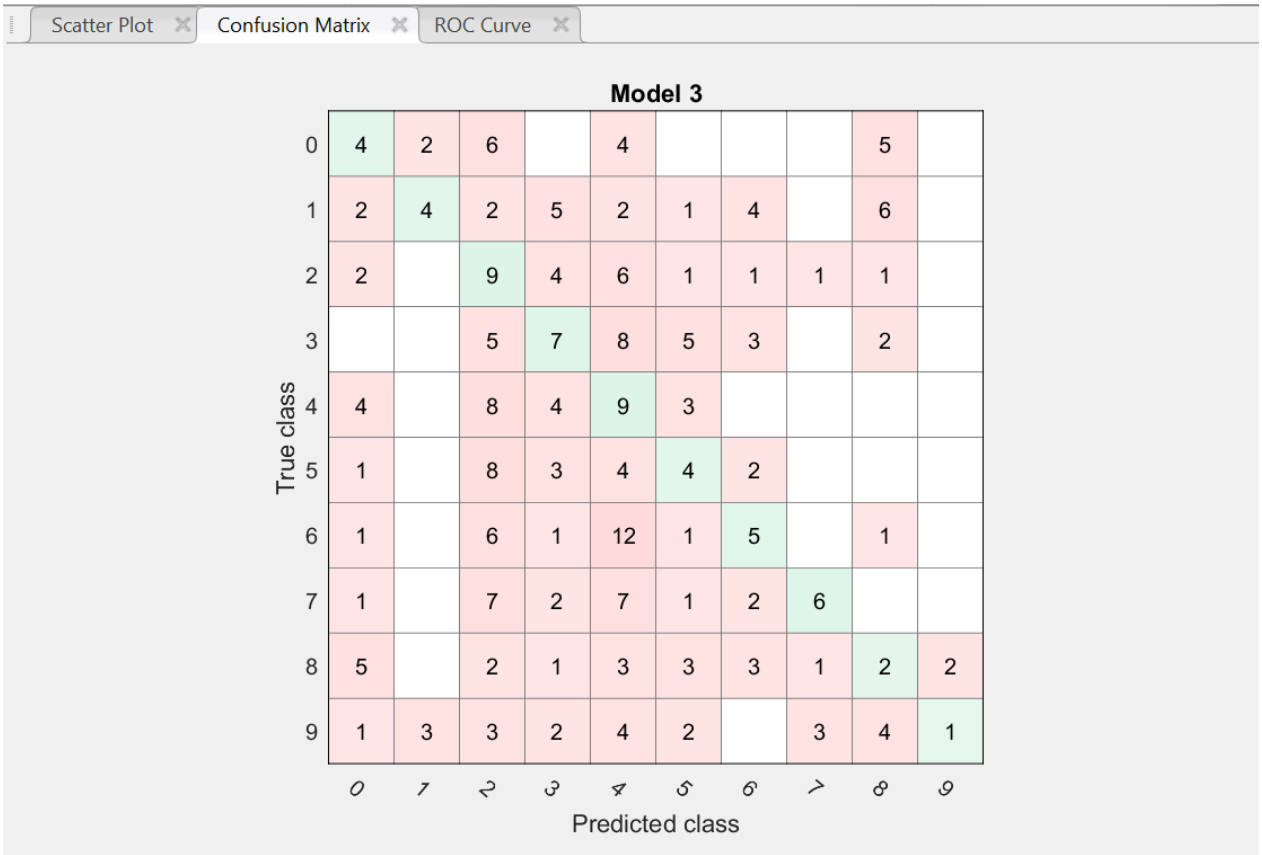
Resim 6. Data Batch 1-Lineear Discriminant-Confuzyon Matrisi



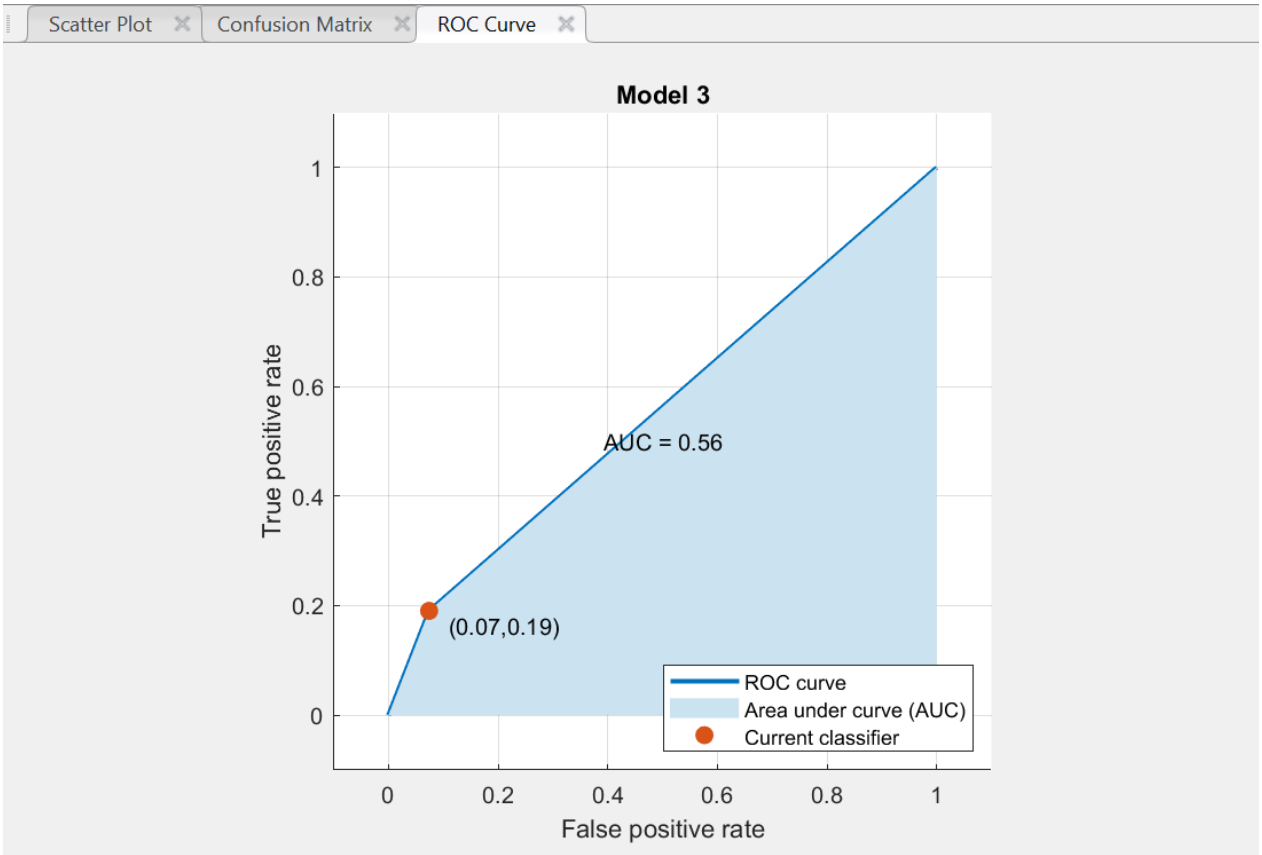
Resim 7. Data Batch 1-Lineear Discriminant-ROC Eğrisi



Resim 8. Data Batch 1-Fine KNN-Dağılım Grafiği



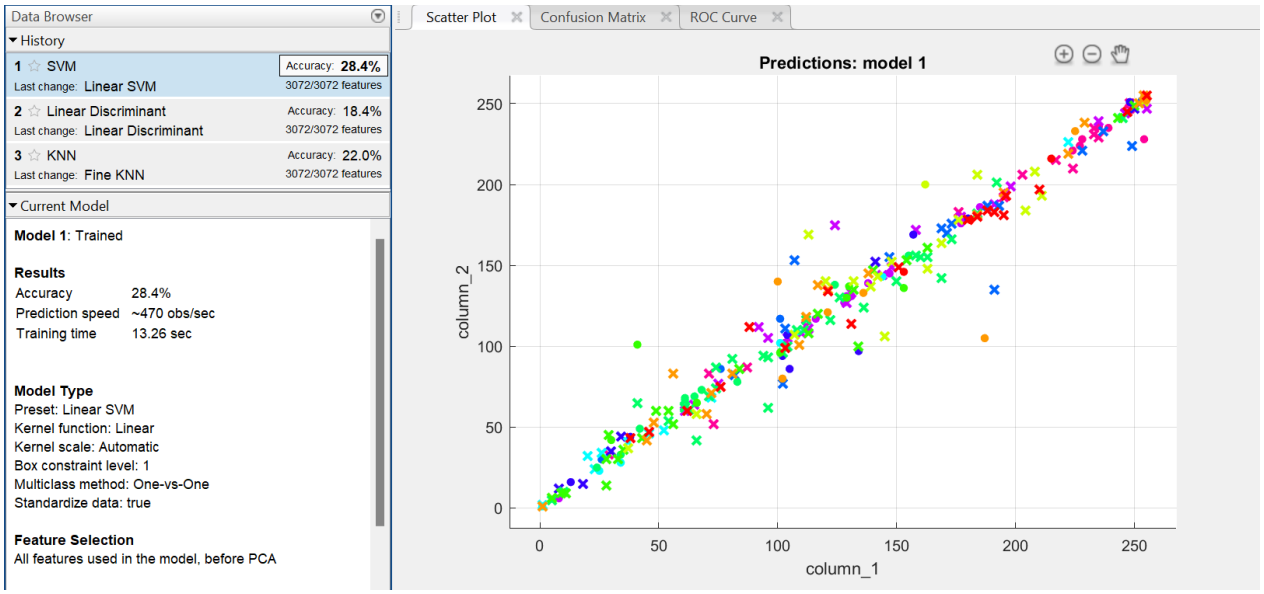
Resim 9. Data Batch 1-Fine KNN-Confuzyon Matrisi



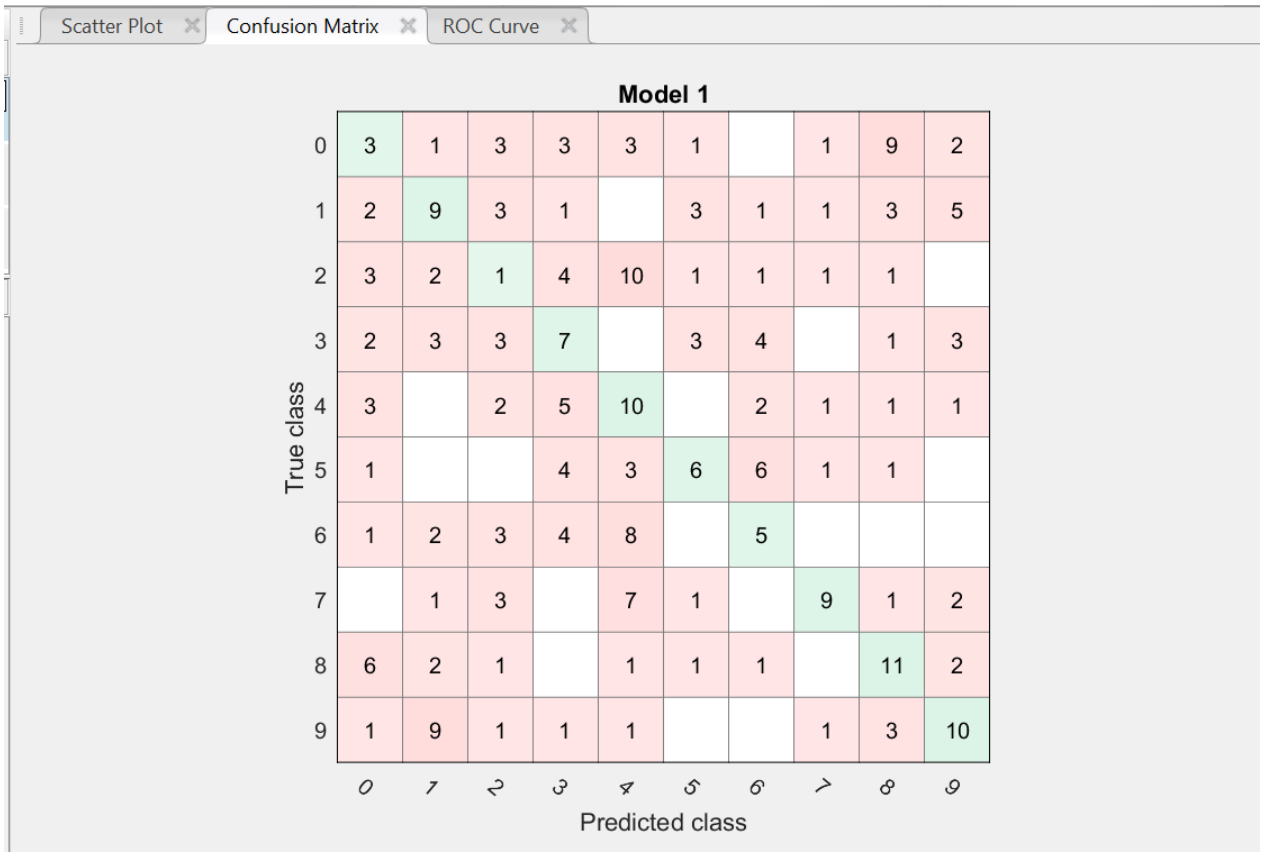
Resim 10. Data Batch 1-Fine KNN-ROC Eğrisi

Tablo 2. Data Batch 2 için bulunan değerler.

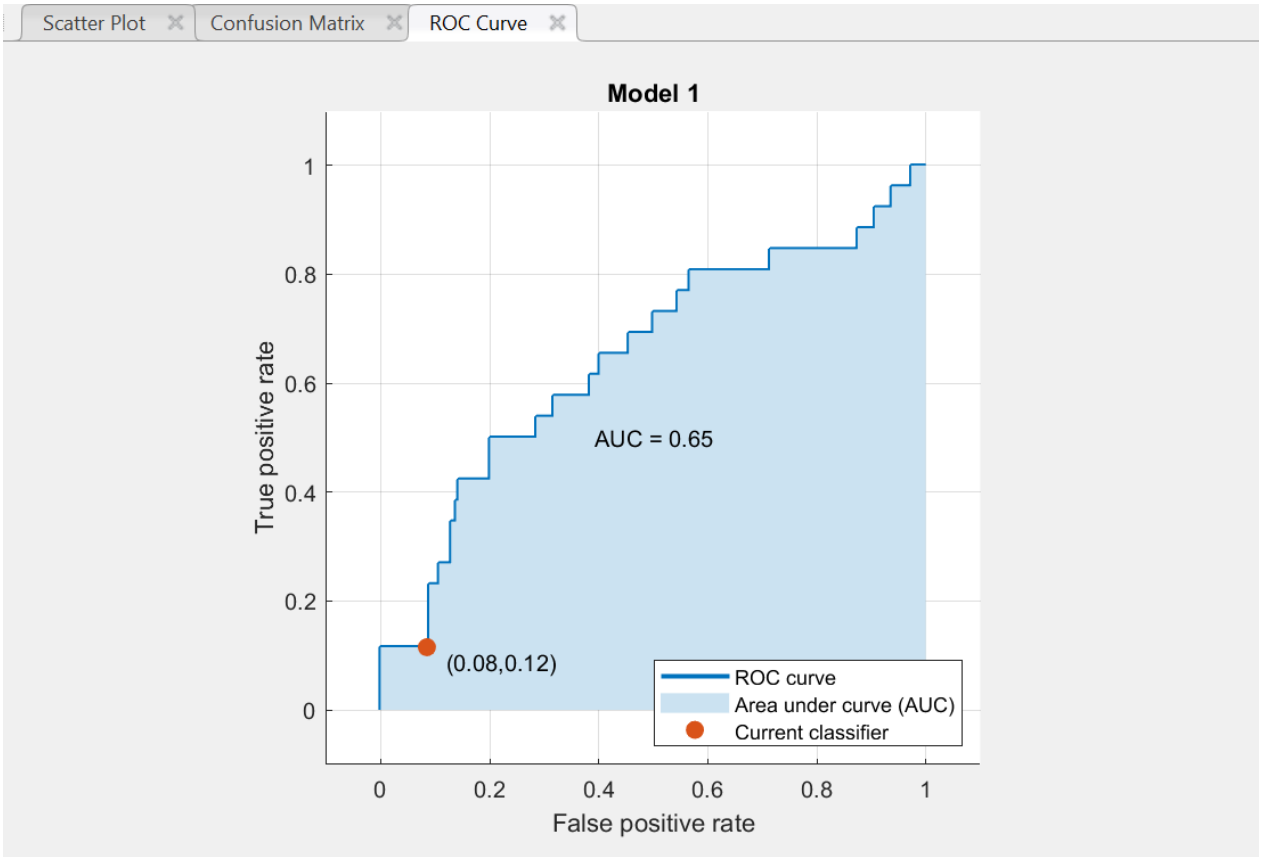
Algoritma	Veri Seti Bölümü	Accuracy	
Linear SVM	Data Batch2 İlk 1000 ham veri	28.4	
Linear Discriminant	Data Batch2	18.4	
Fine KNN	6000-7000 ham veri	22.0	
	Data Batch2		



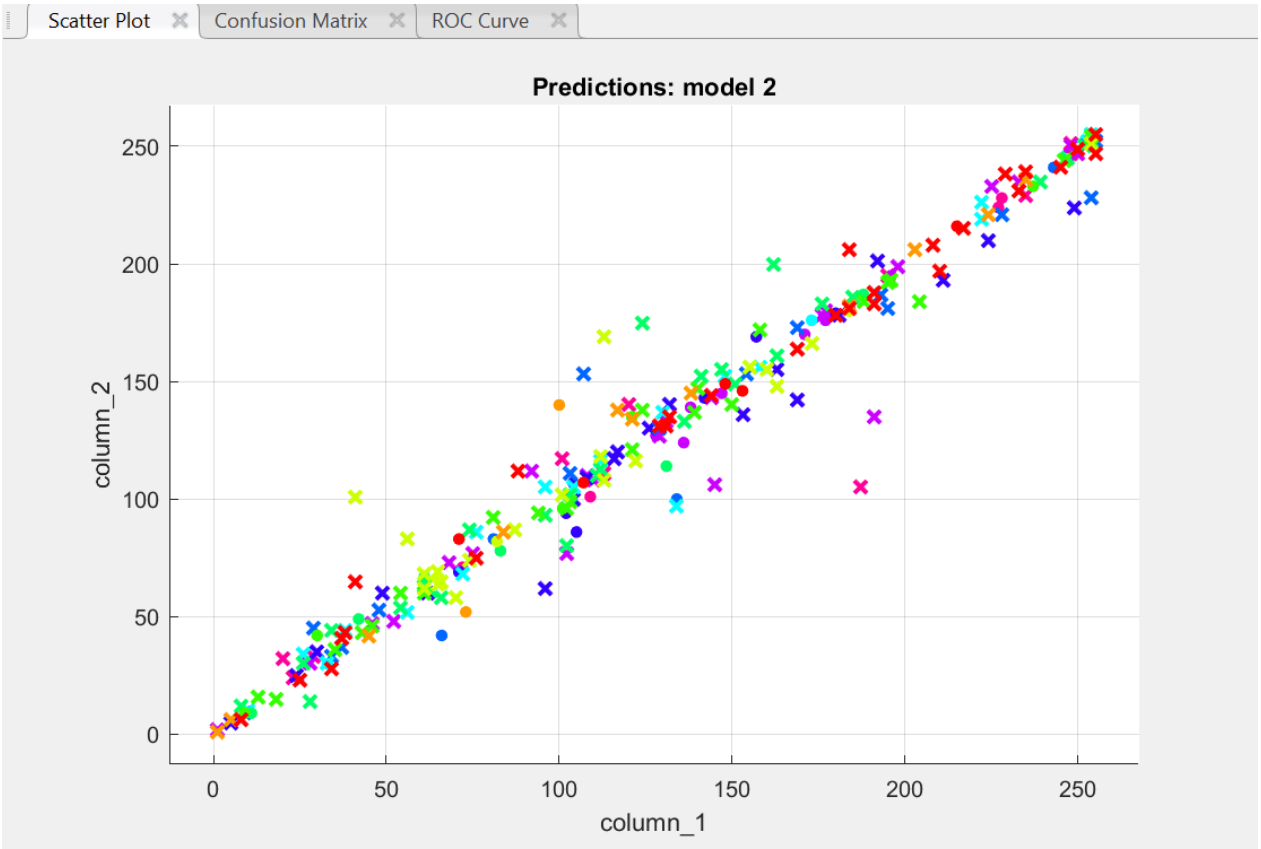
Resim 11. Data Batch 2-Lineear SVM-Dağılım Grafiği



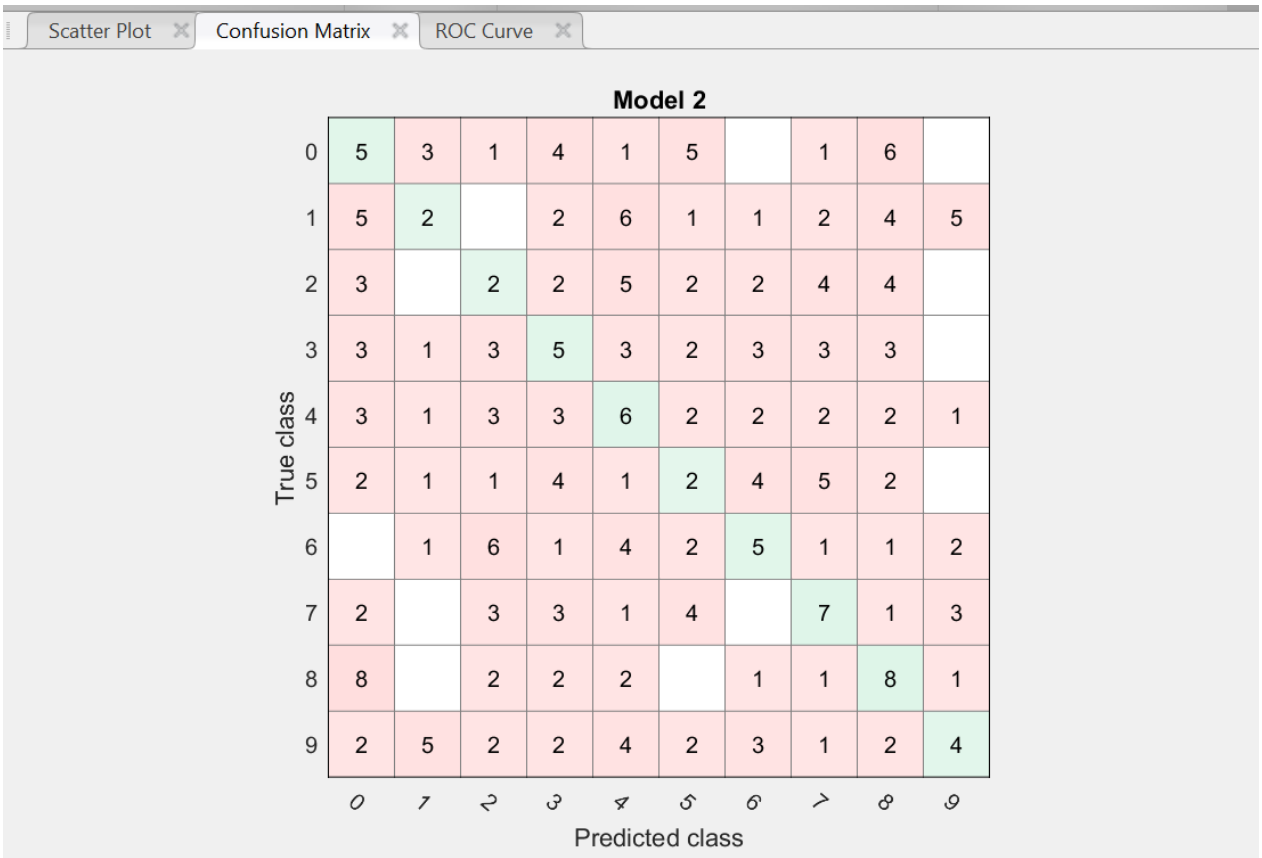
Resim 12. Data Batch 2-Lineear SVM-Confuzyon Matrisi



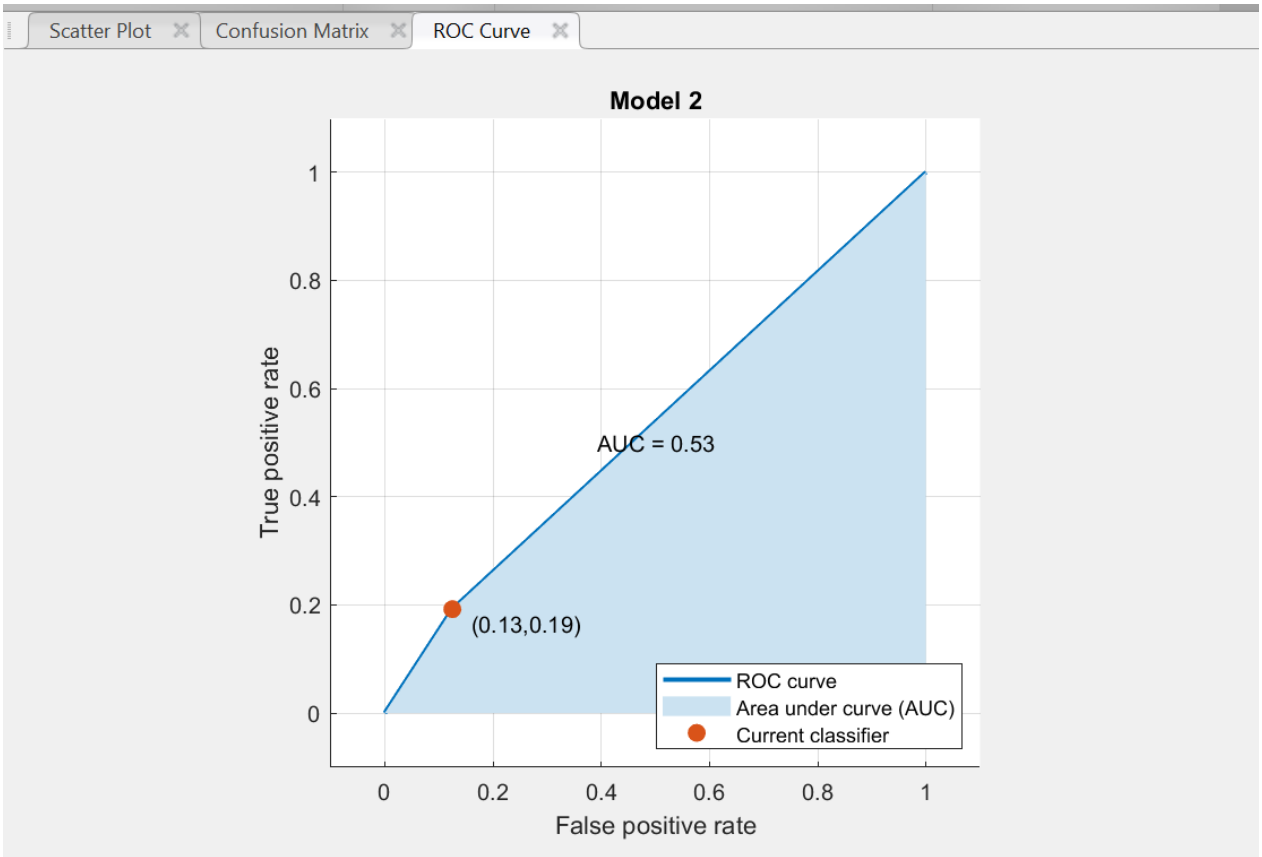
Resim 13. Data Batch 2-Lineear SVM-ROC Eğrisi



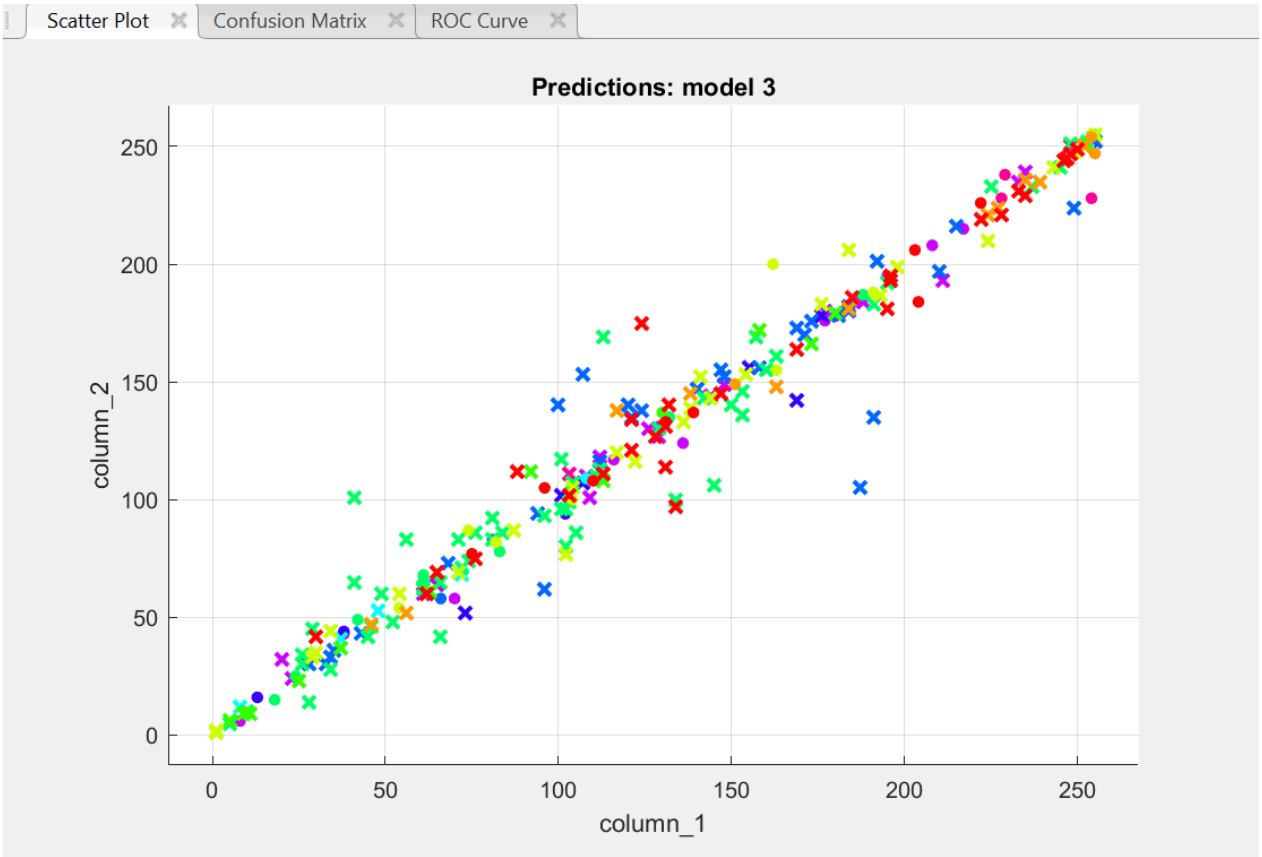
Resim 14. Data Batch 2-Lineear Discriminant-Dağılım Grafiği



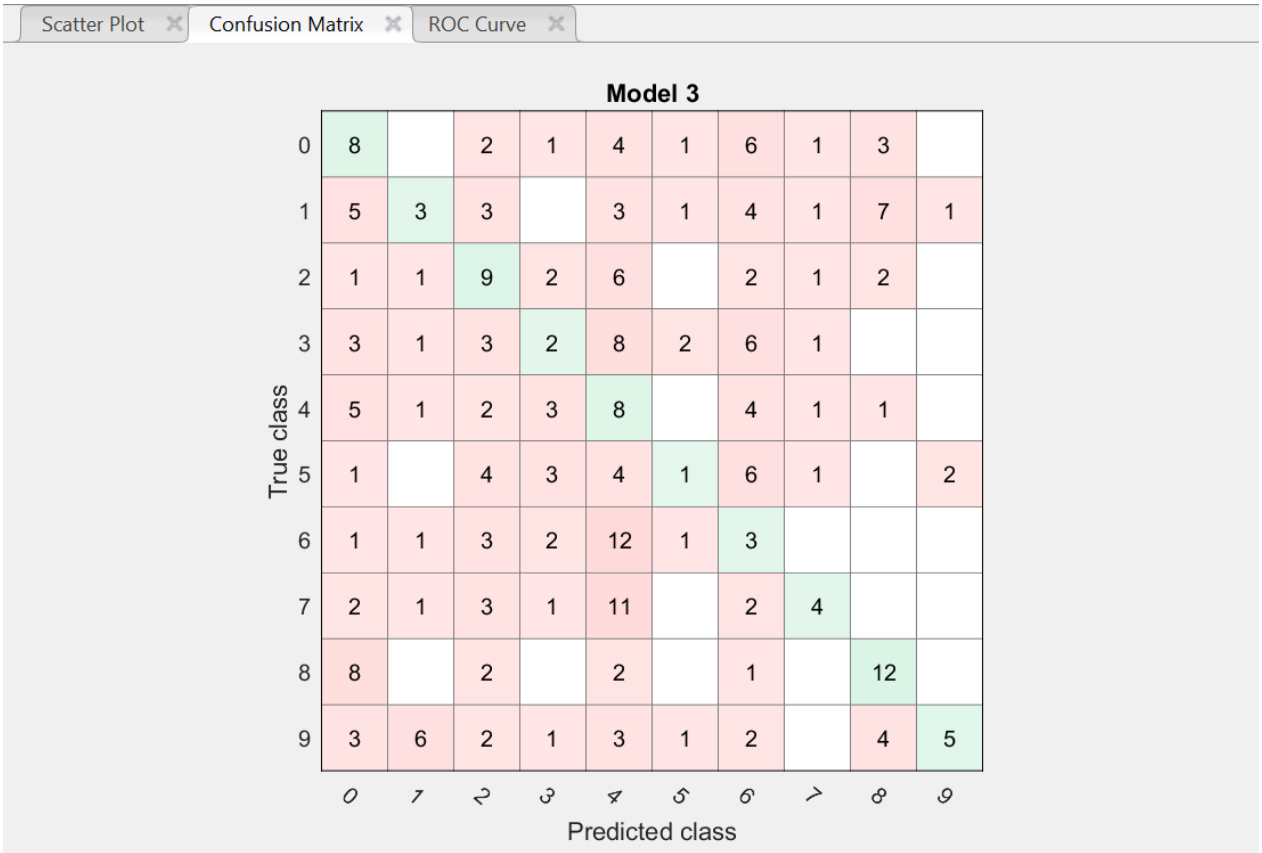
Resim 15. Data Batch 2-Lineear Discriminant-Confuzyon Matrisi



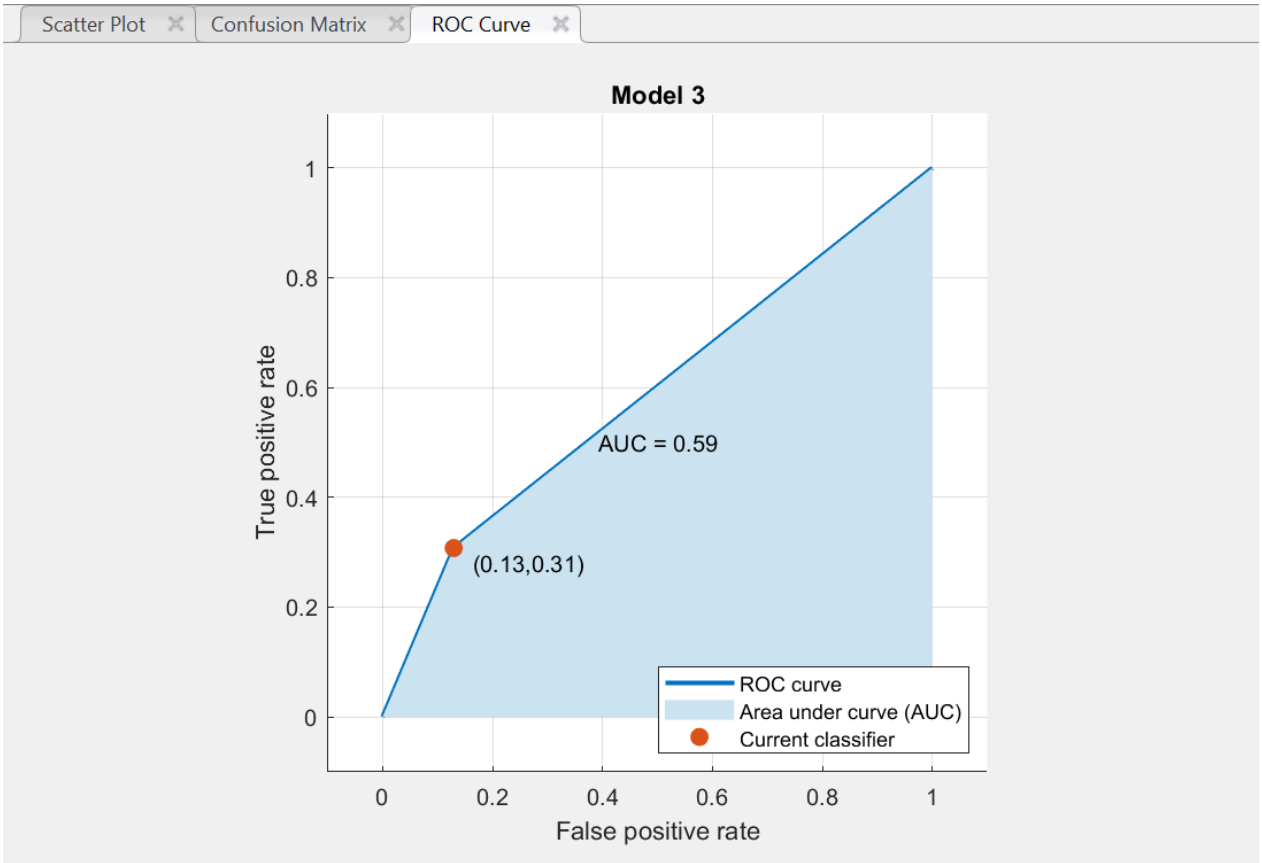
Resim 16. Data Batch 2-Lineear Discriminant-ROC Eğrisi



Resim 17. Data Batch 2-Fine KNN-Dağılım Grafiği



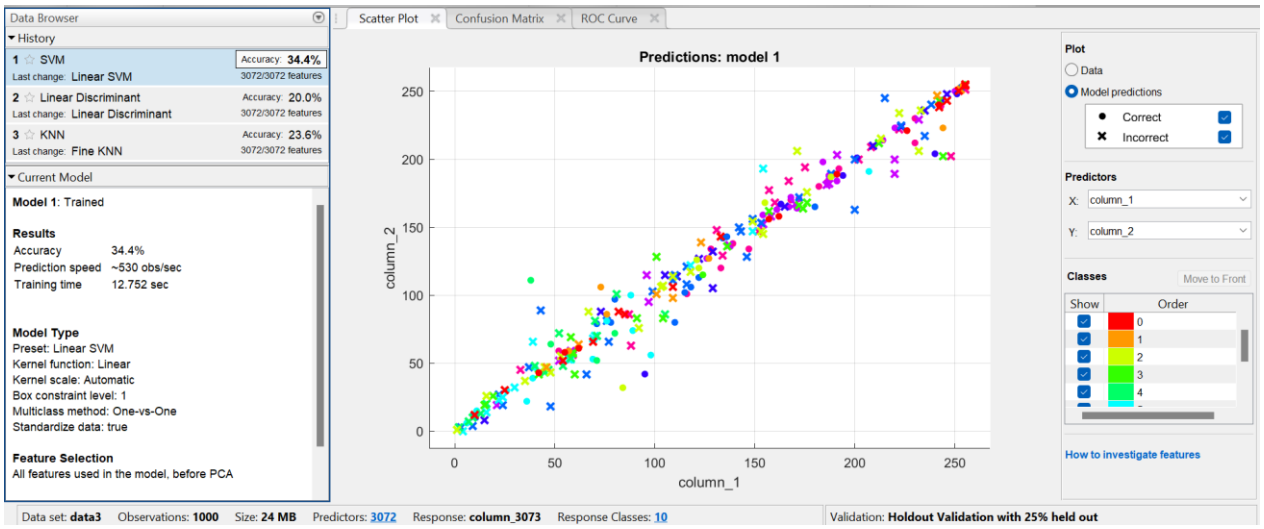
Resim 18. Data Batch 2-Fine KNN-Confuzyon Matrisi



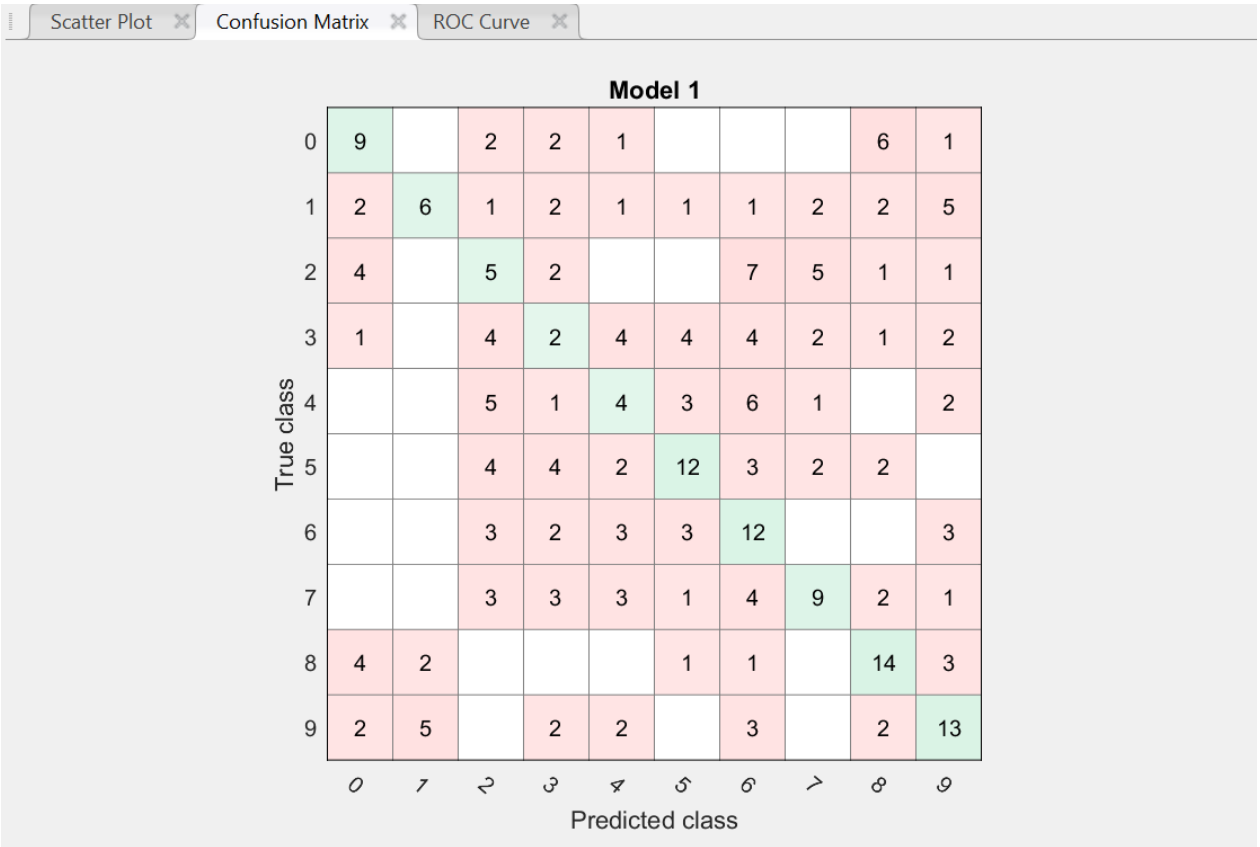
Resim 19. Data Batch 2-Fine KNN-ROC Eğrisi

Tablo 3. Data Batch 3 için bulunan değerler.

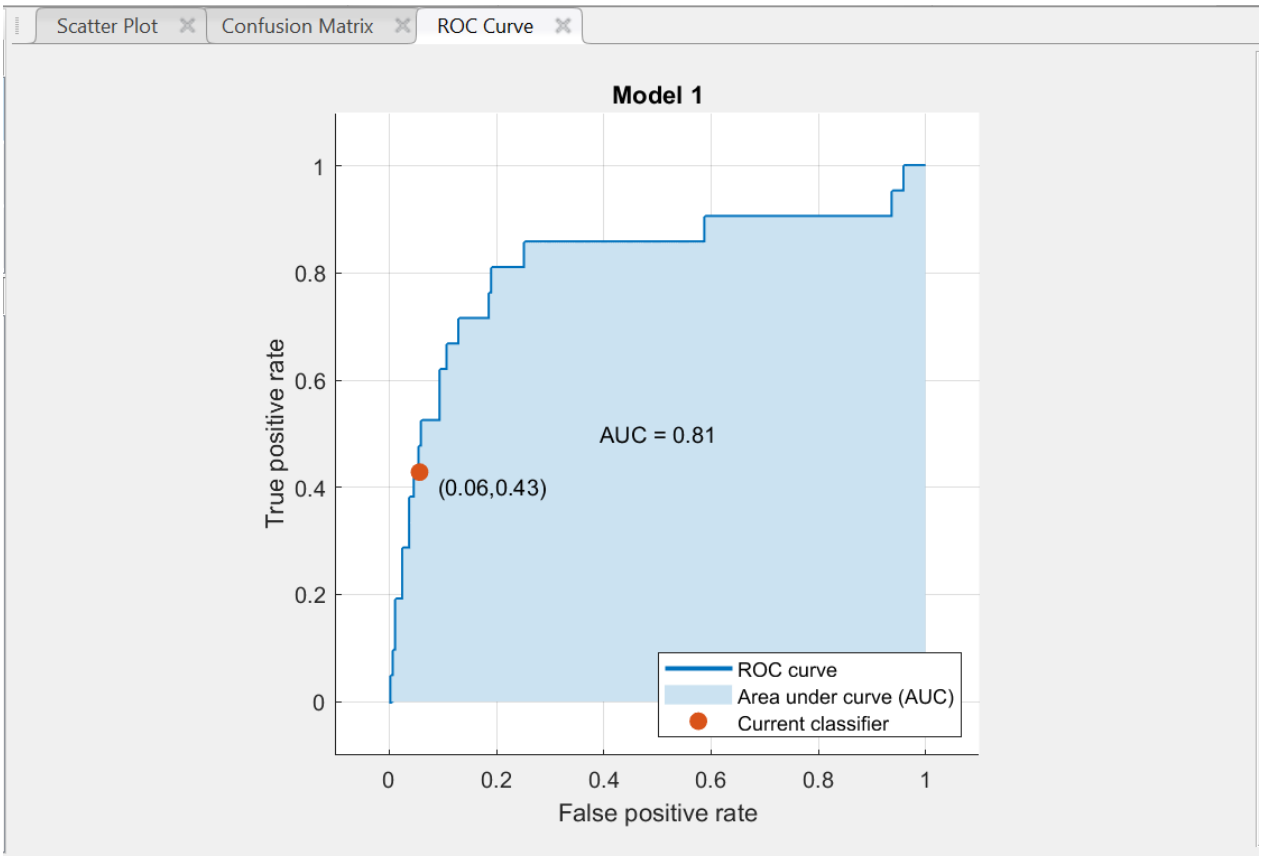
Algoritma	Veri Seti Bölümü	Accuracy	
Linear SVM	Data Batch3 İlk 1000 ham veri	34.4	
Linear Discriminant	Data Batch3	20.0	
Fine KNN	6000-7000 ham veri	23.6	
	Data Batch3		



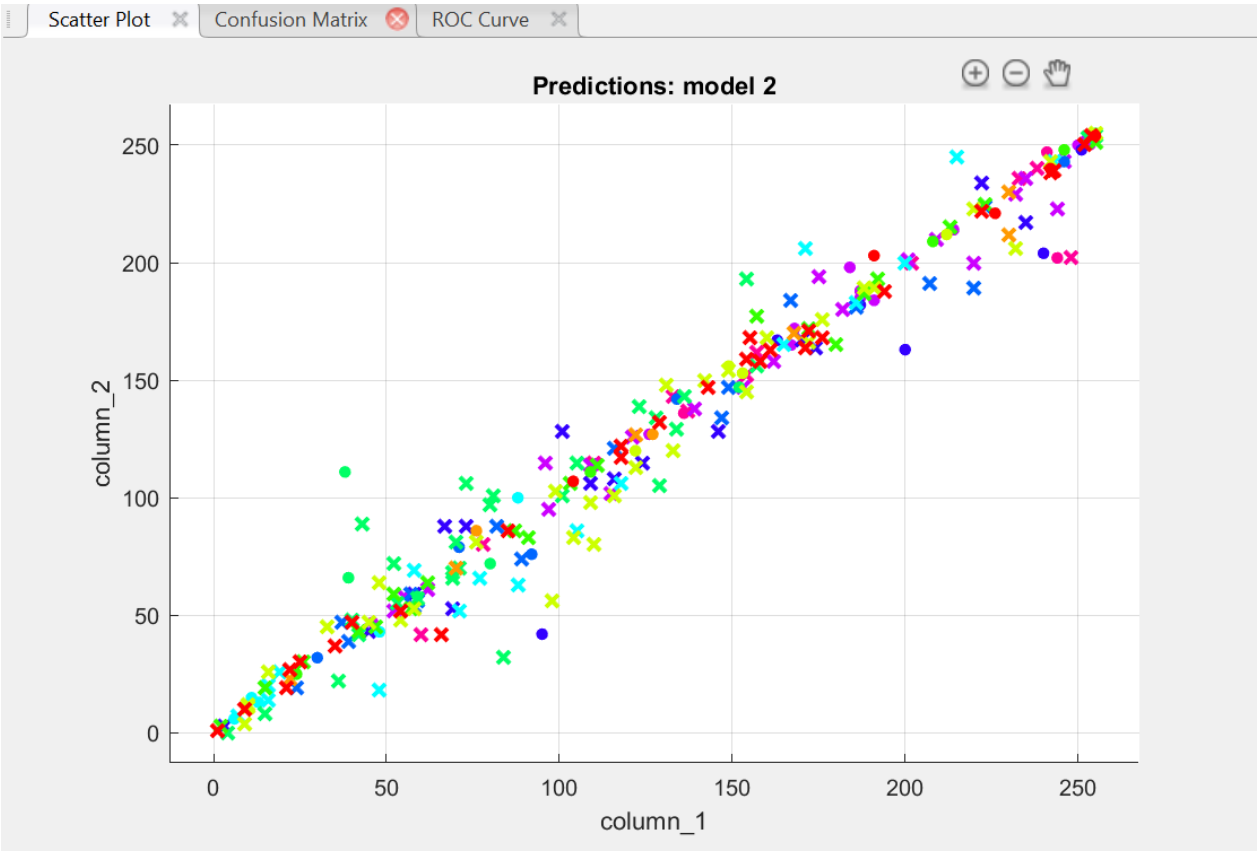
Resim 20. Data Batch 3-Lineear SVM-Dağılım Grafiği



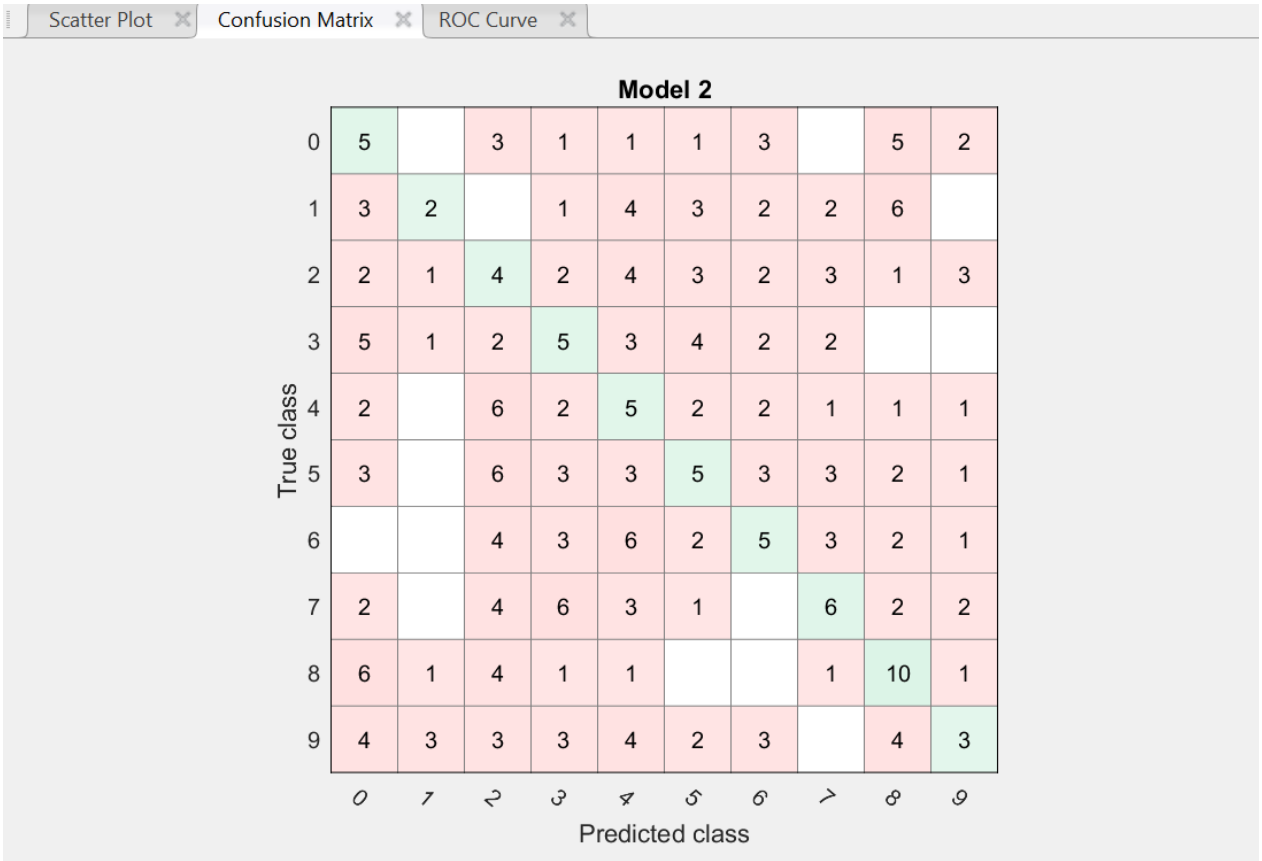
Resim 21. Data Batch 3-Lineear SVM-Confuzyon Matrisi



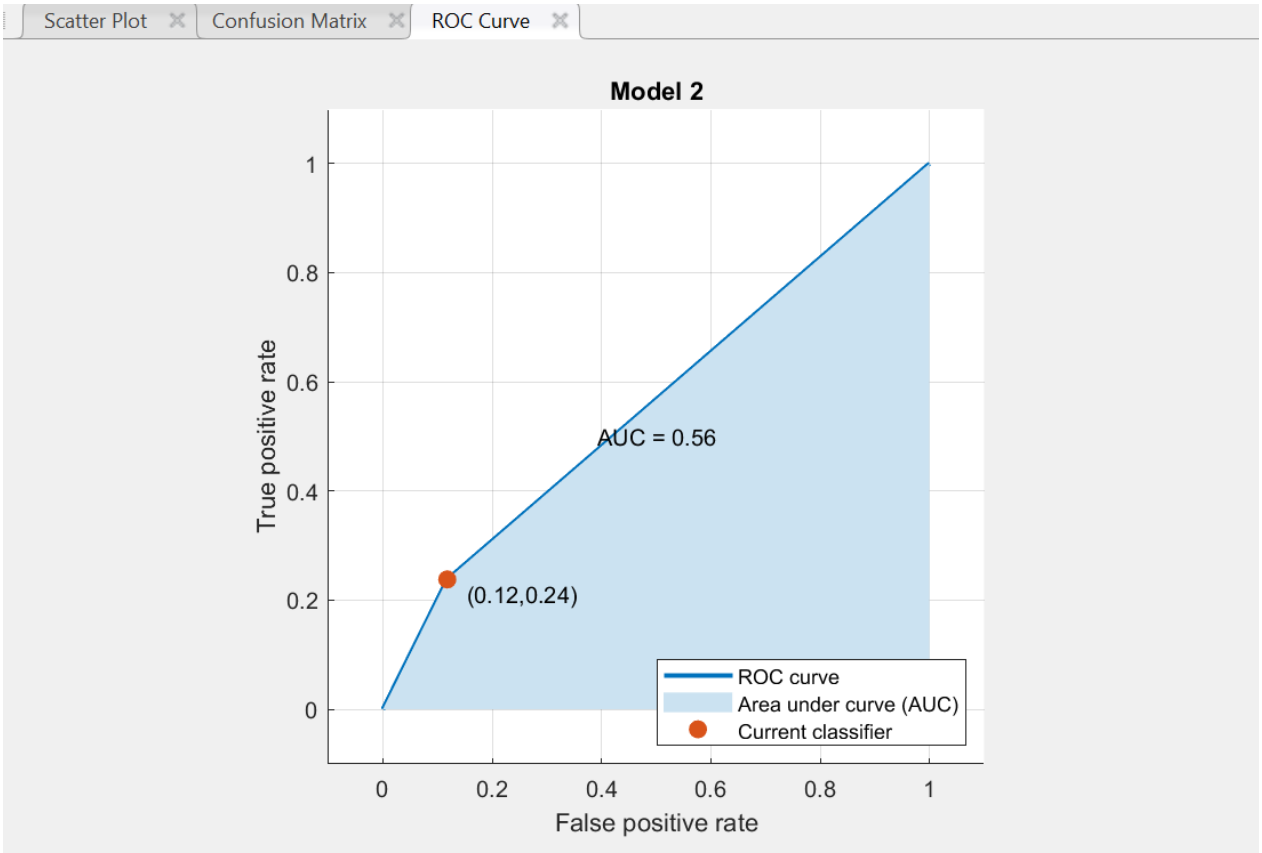
Resim 22. Data Batch 3-Lineear SVM-ROC Eğrisi



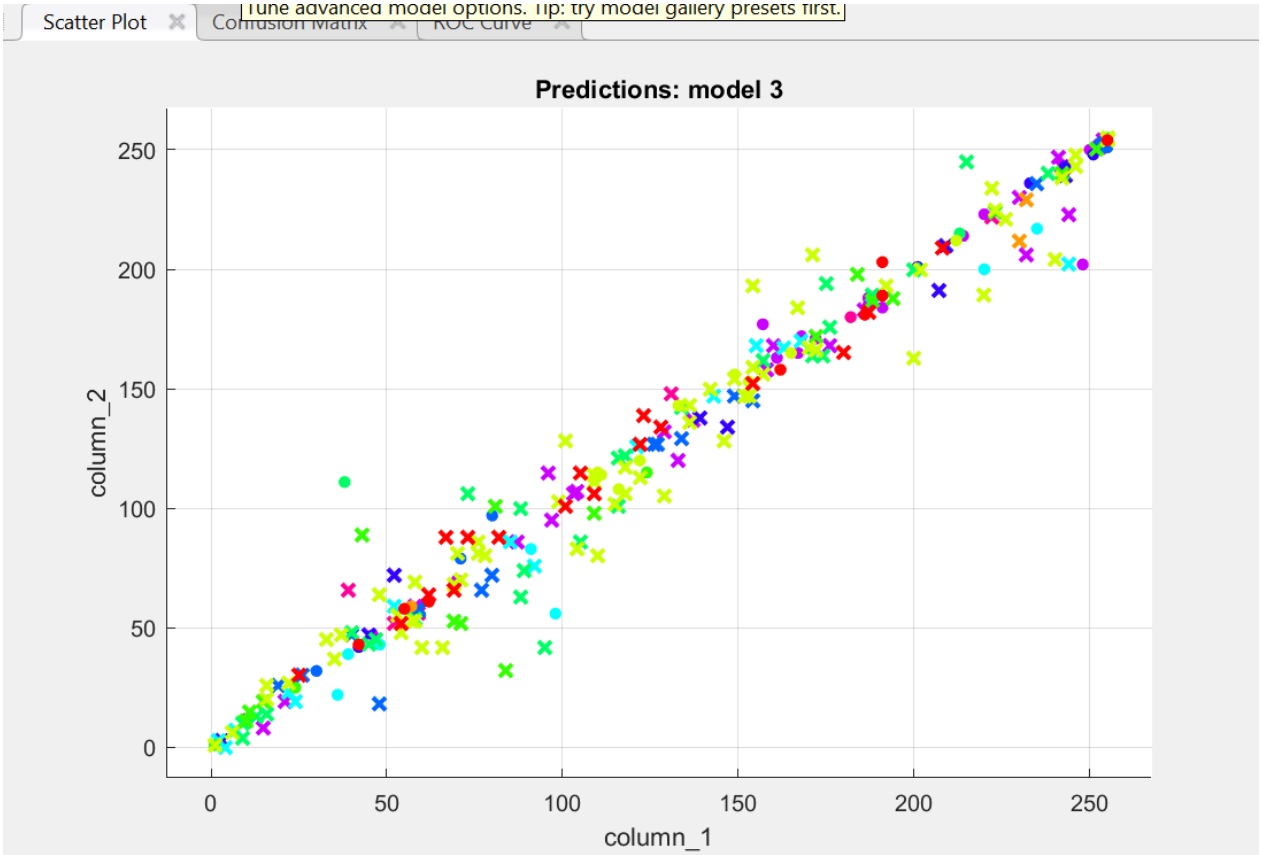
Resim 23. Data Batch 3-Lineear Discriminant-Dağılım Grafiği



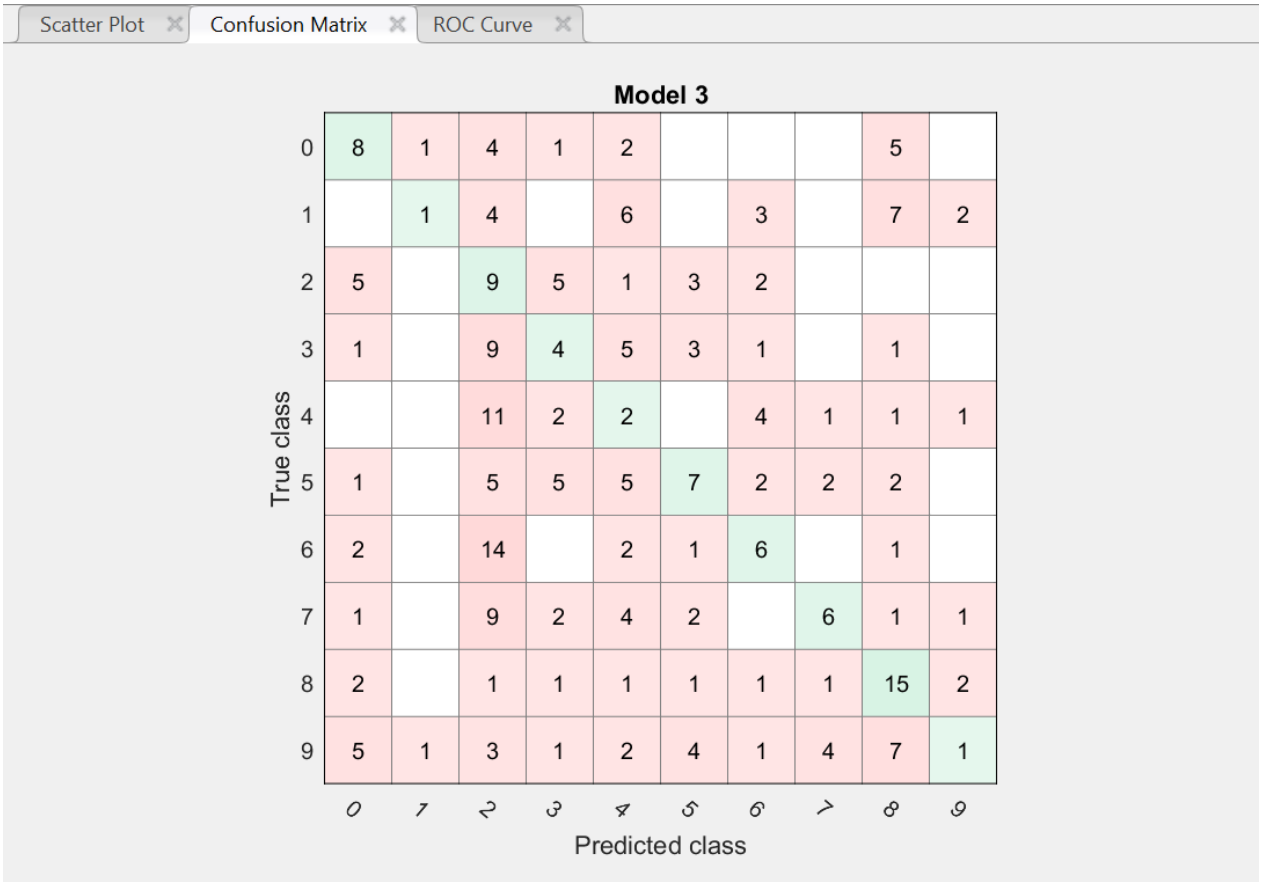
Resim 24. Data Batch 3-Lineear Discriminant-Confuzyon Matrisi



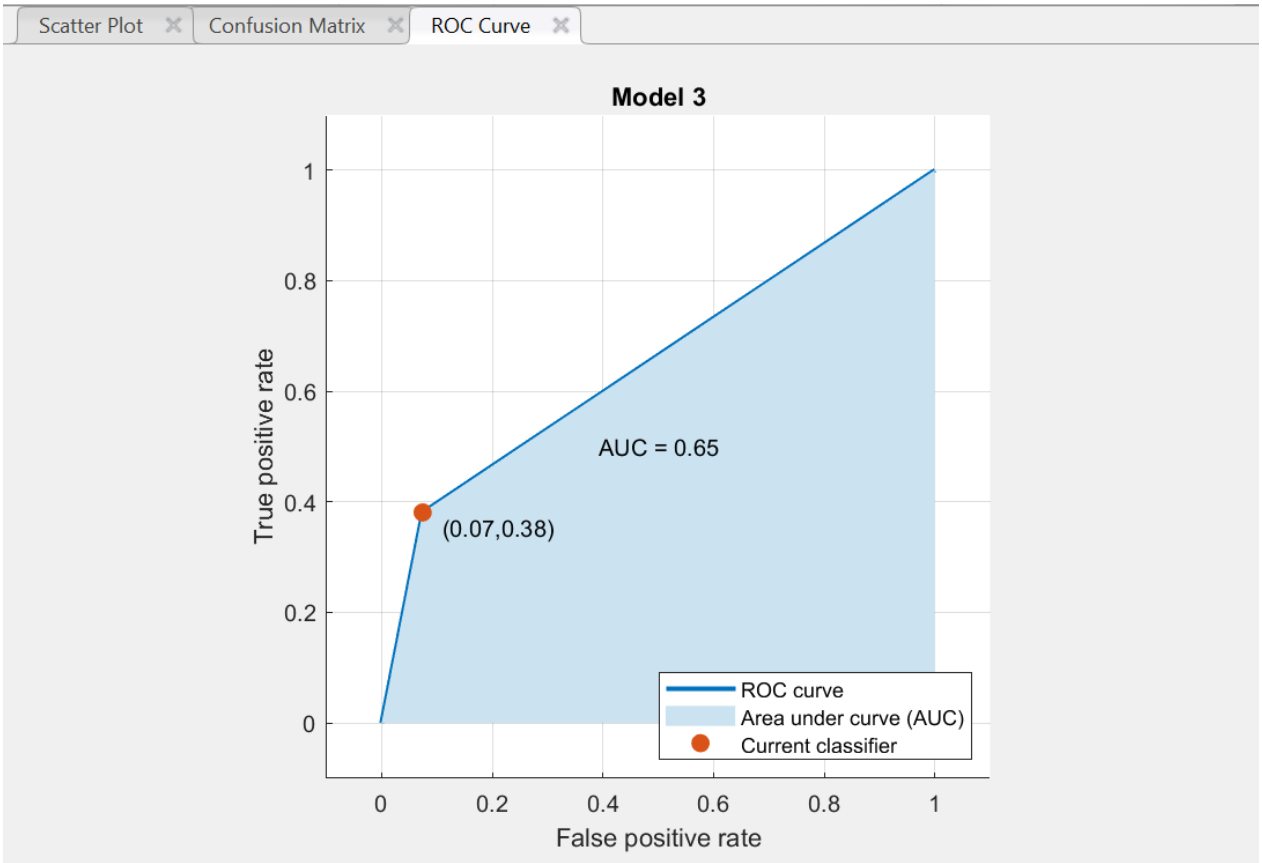
Resim 25. Data Batch 3-Lineear Discriminant-ROC Eğrisi



Resim 26. Data Batch 3-Fine KNN-Dağılım Grafiği



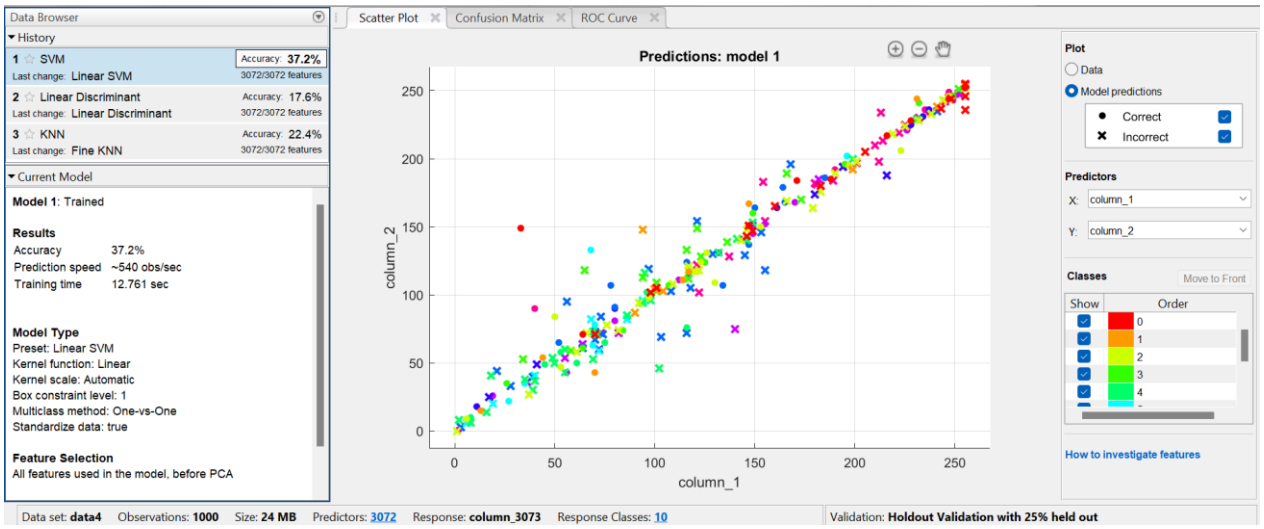
Resim 27. Data Batch 3-Fine KNN-Confuzyon Matrisi



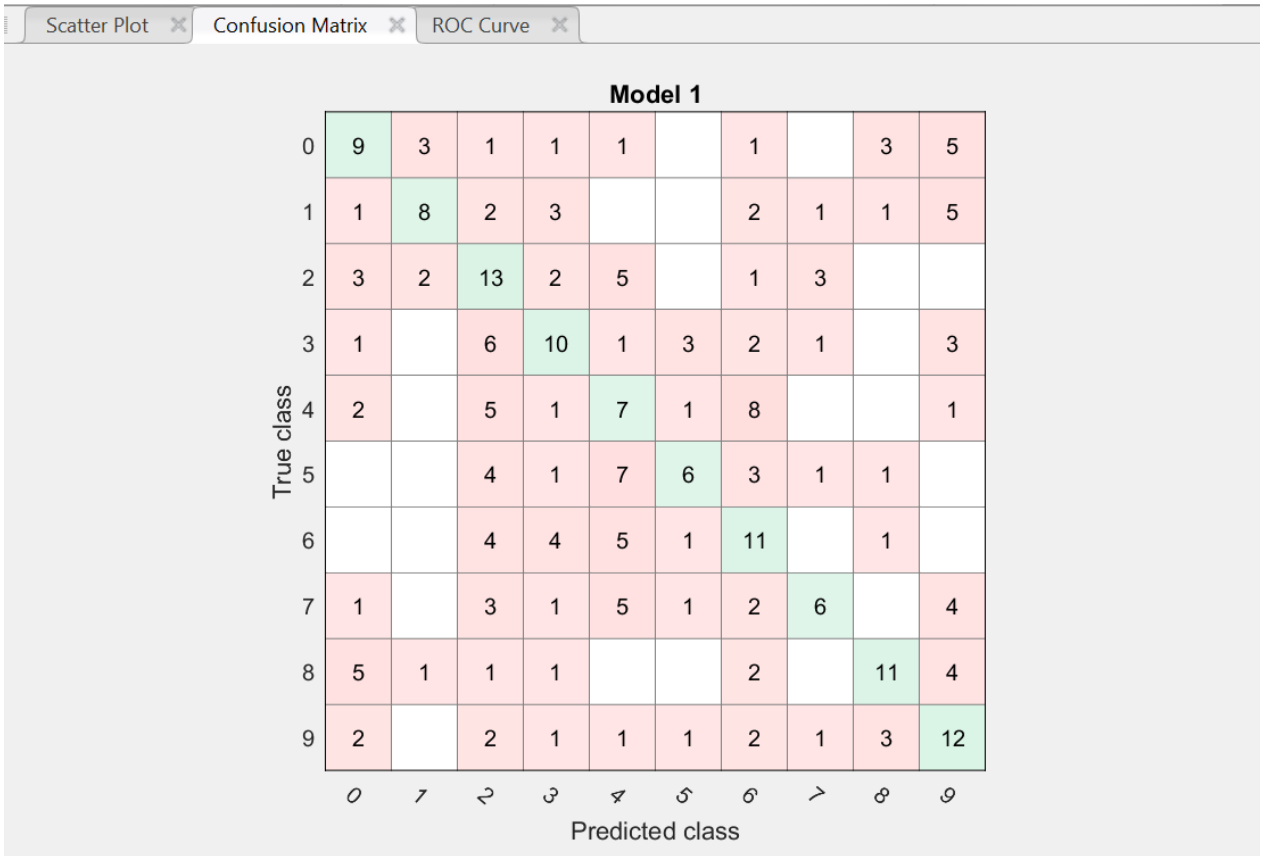
Resim 28. Data Batch 3-Fine KNN-ROC Eğrisi

Tablo 4. Data Batch 4 için bulunan değerler.

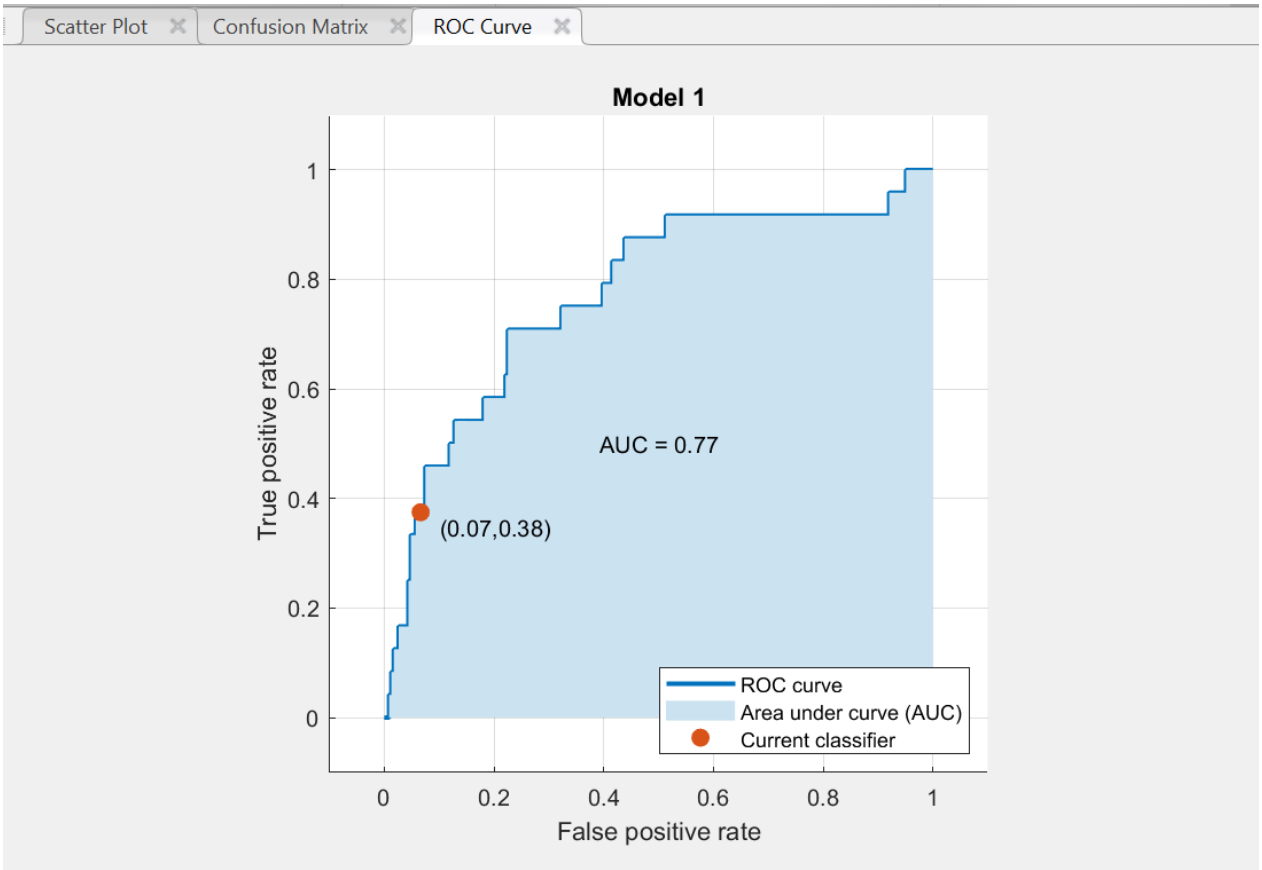
Algoritma	Veri Seti Bölümü	Accuracy	
Linear SVM	Data Batch4 İlk 1000 ham veri	37.2	
Linear Discriminant	Data Batch4	17.6	
Fine KNN	6000-7000 ham veri	22.4	
	Data Batch4		



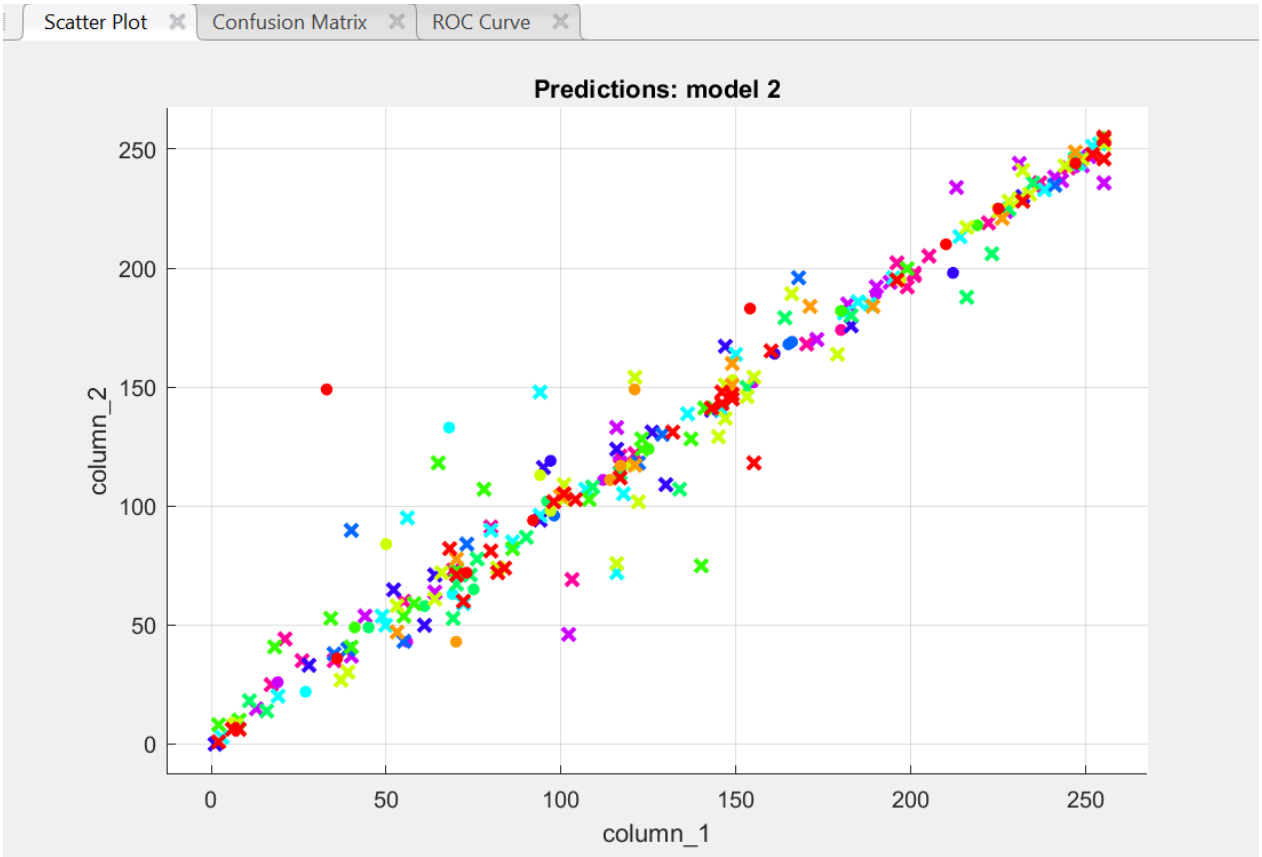
Resim 29. Data Batch 4-Lineear SVM-Dağılım Grafiği



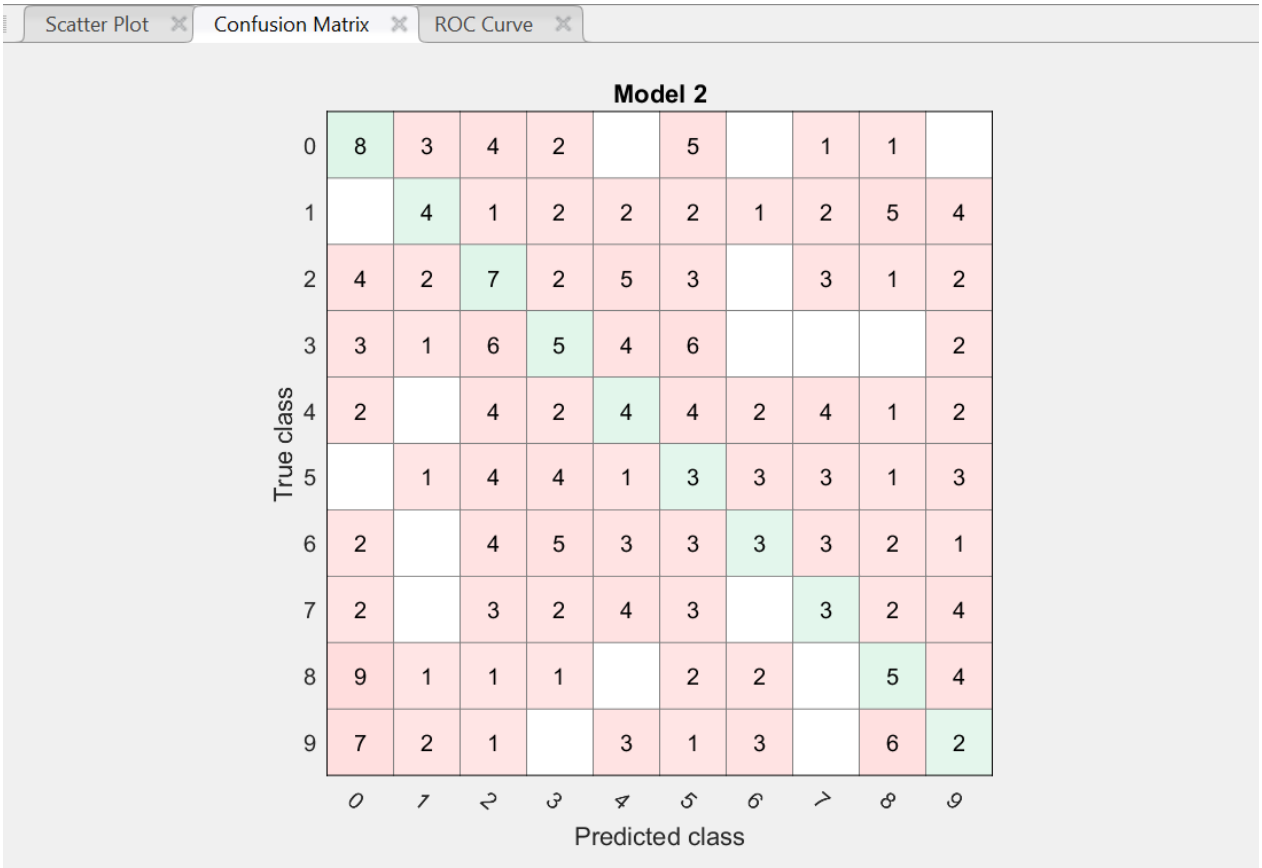
Resim 30. Data Batch 4-Lineear SVM-Confuzyon Matrisi



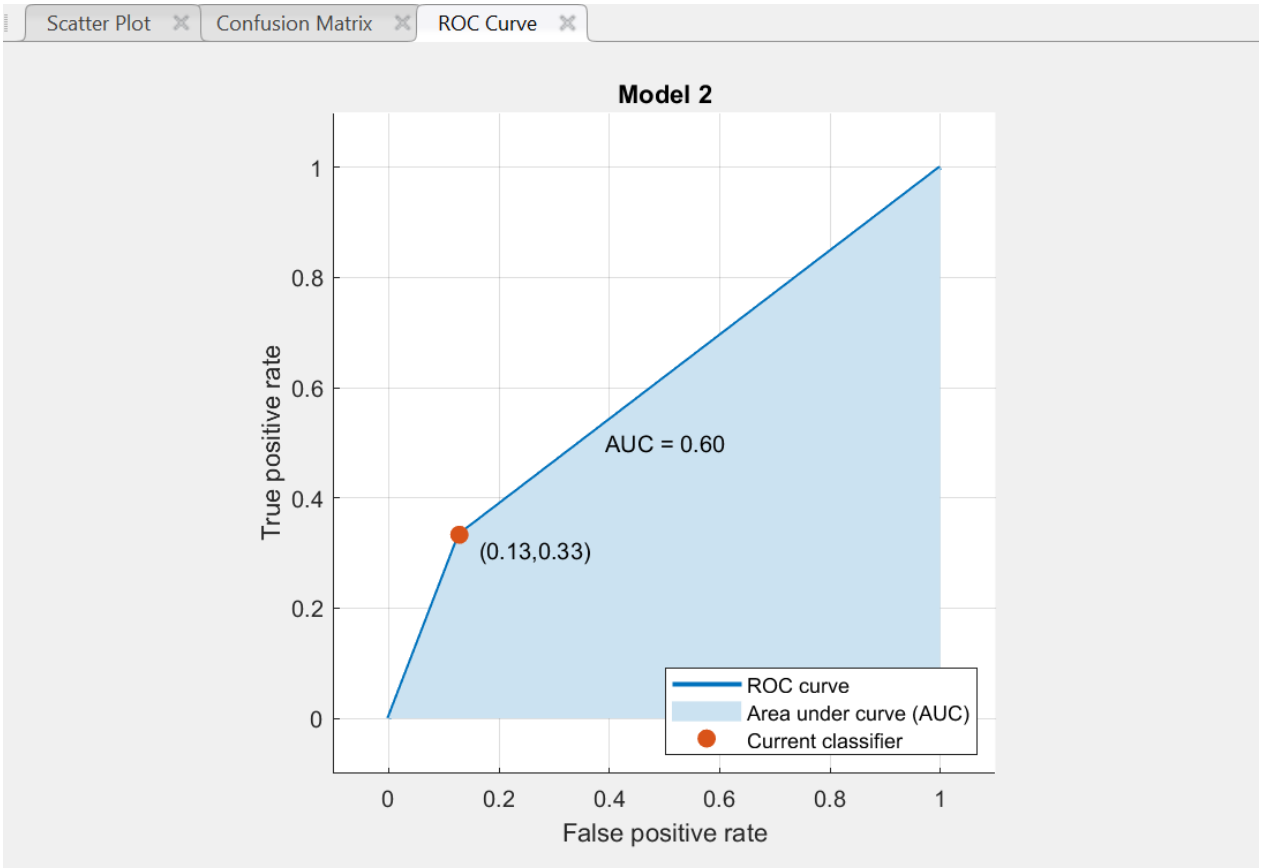
Resim 31. Data Batch 4-Lineear SVM-ROC Eğrisi



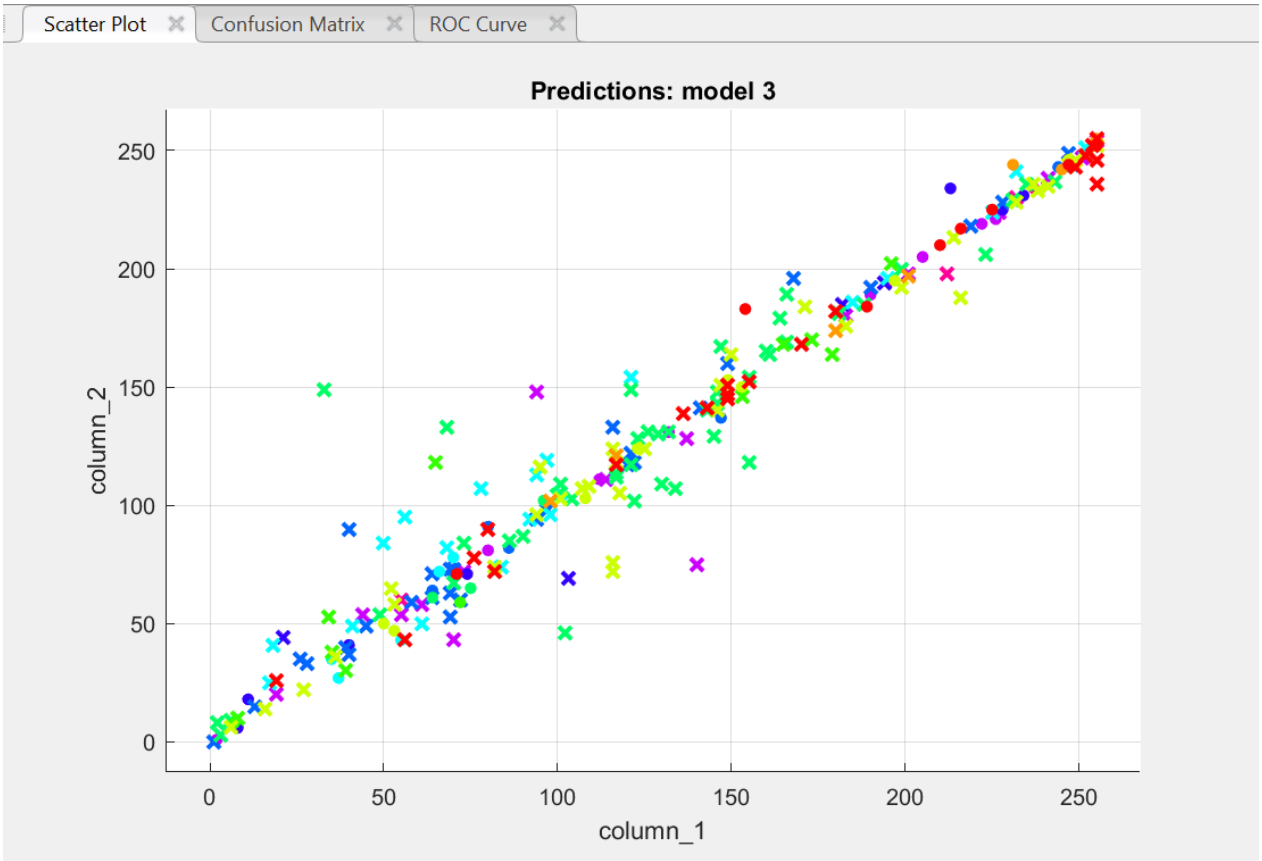
Resim 32. Data Batch 4-Lineear Discriminant-Dağılım Grafiği



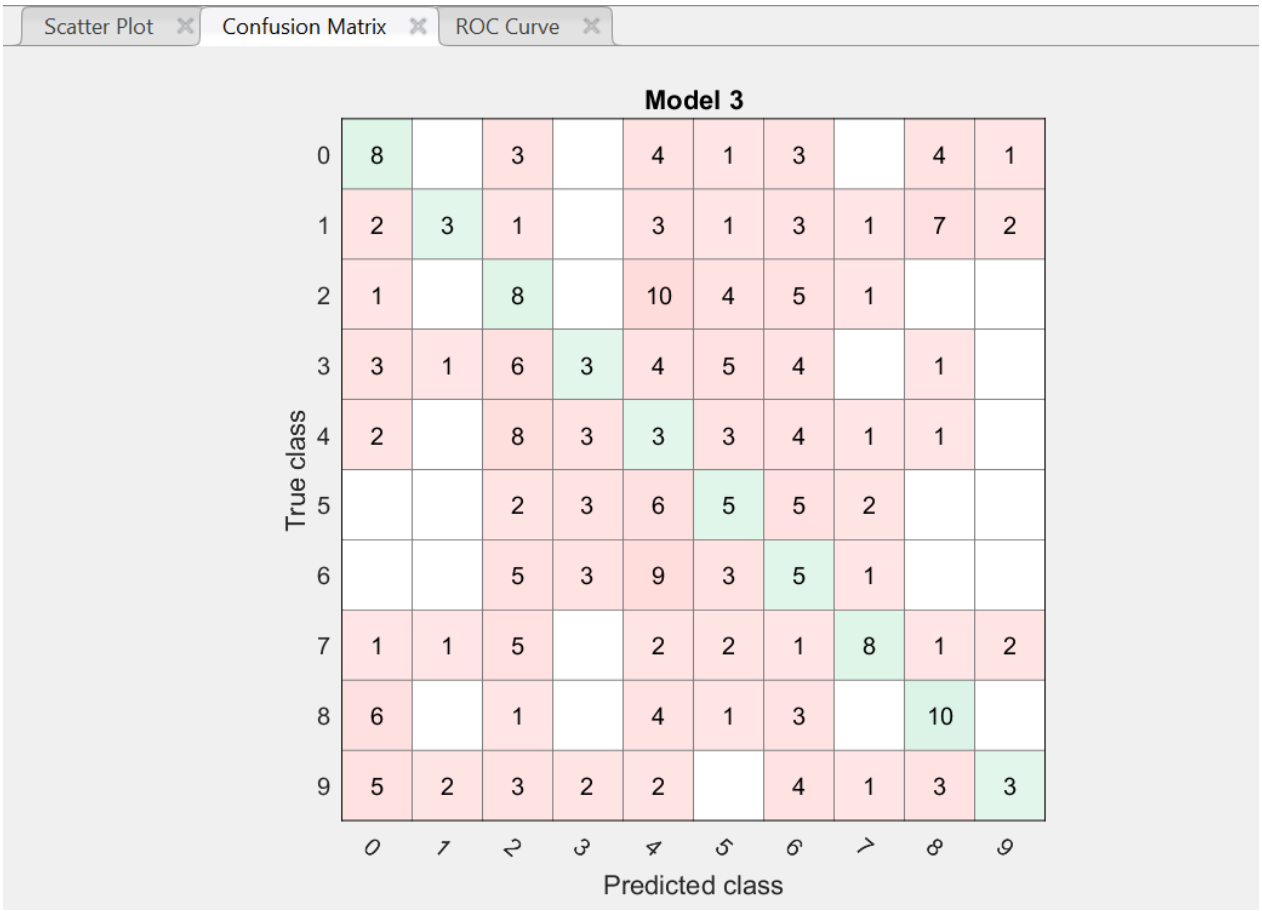
Resim 33. Data Batch 4-Lineear Discriminant-Confuzyon Matrisi



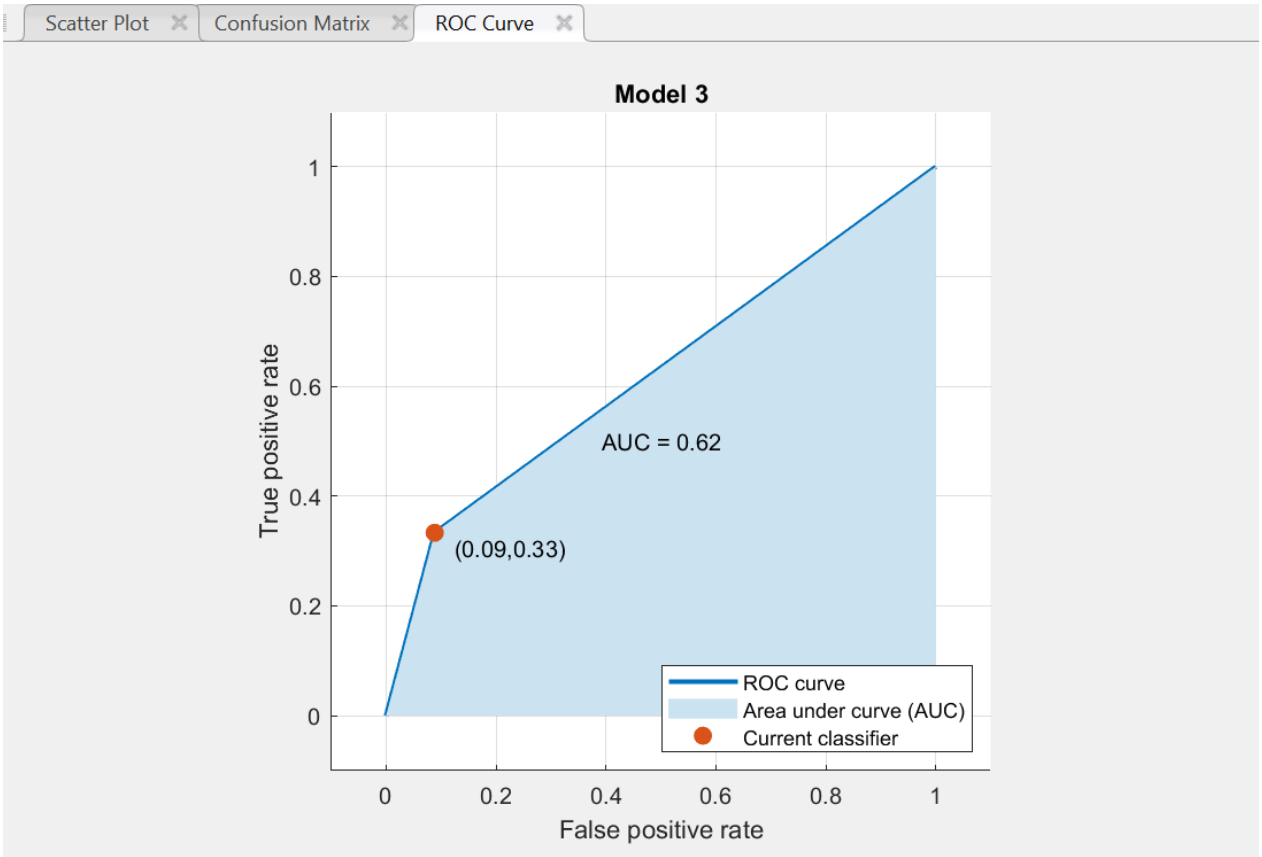
Resim 34. Data Batch 4-Lineear Discriminant-ROC Eğrisi



Resim 35. Data Batch 4-Fine KNN-Dağılım Grafiği



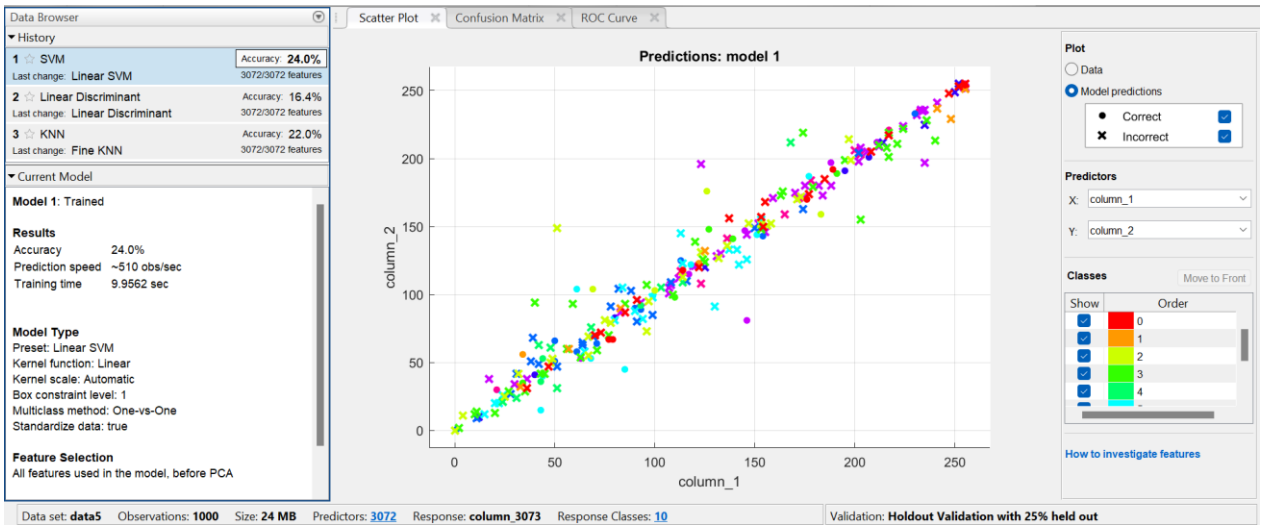
Resim 36. Data Batch 4-Fine KNN-Confuzyon Matrisi



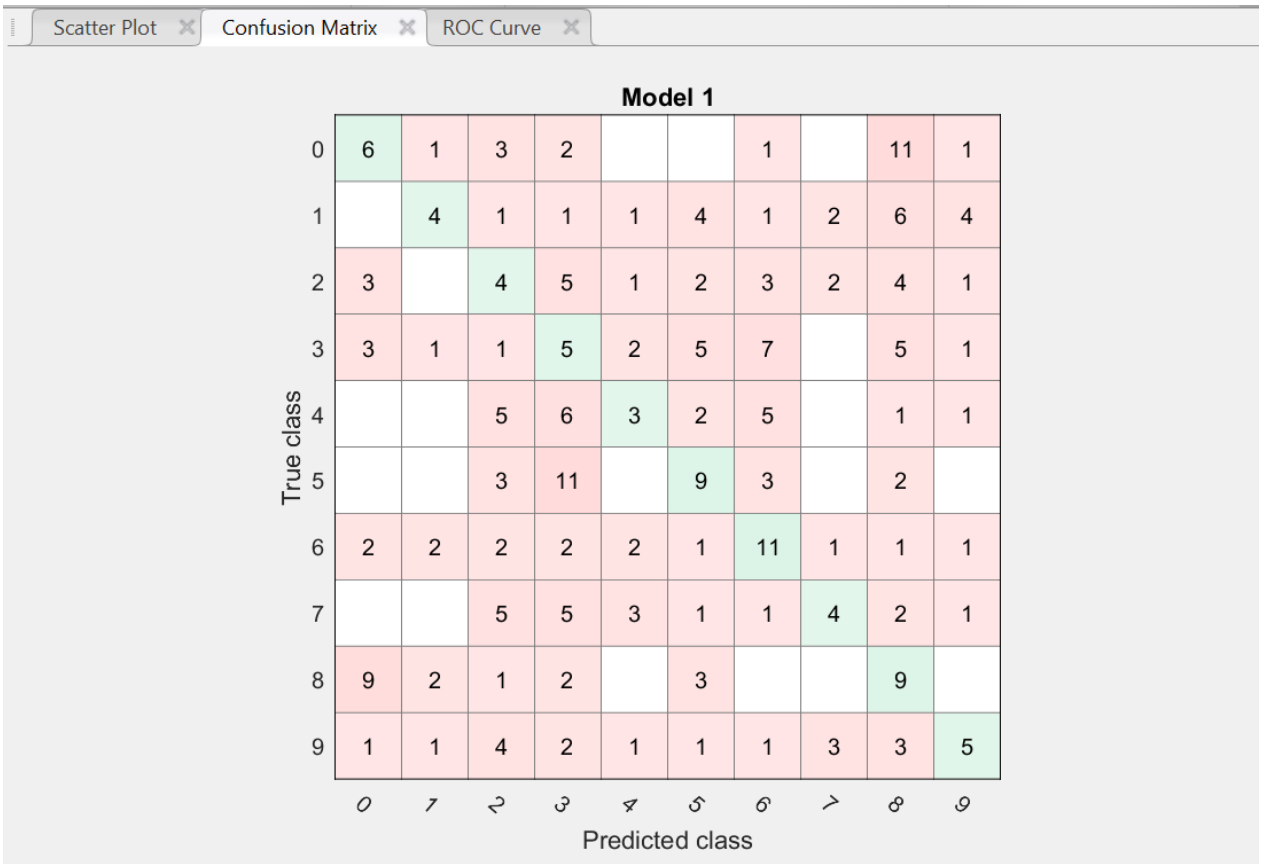
Resim 37. Data Batch 4-Fine KNN-ROC Eğrisi

Tablo 5. Data Batch 5 için bulunan değerler.

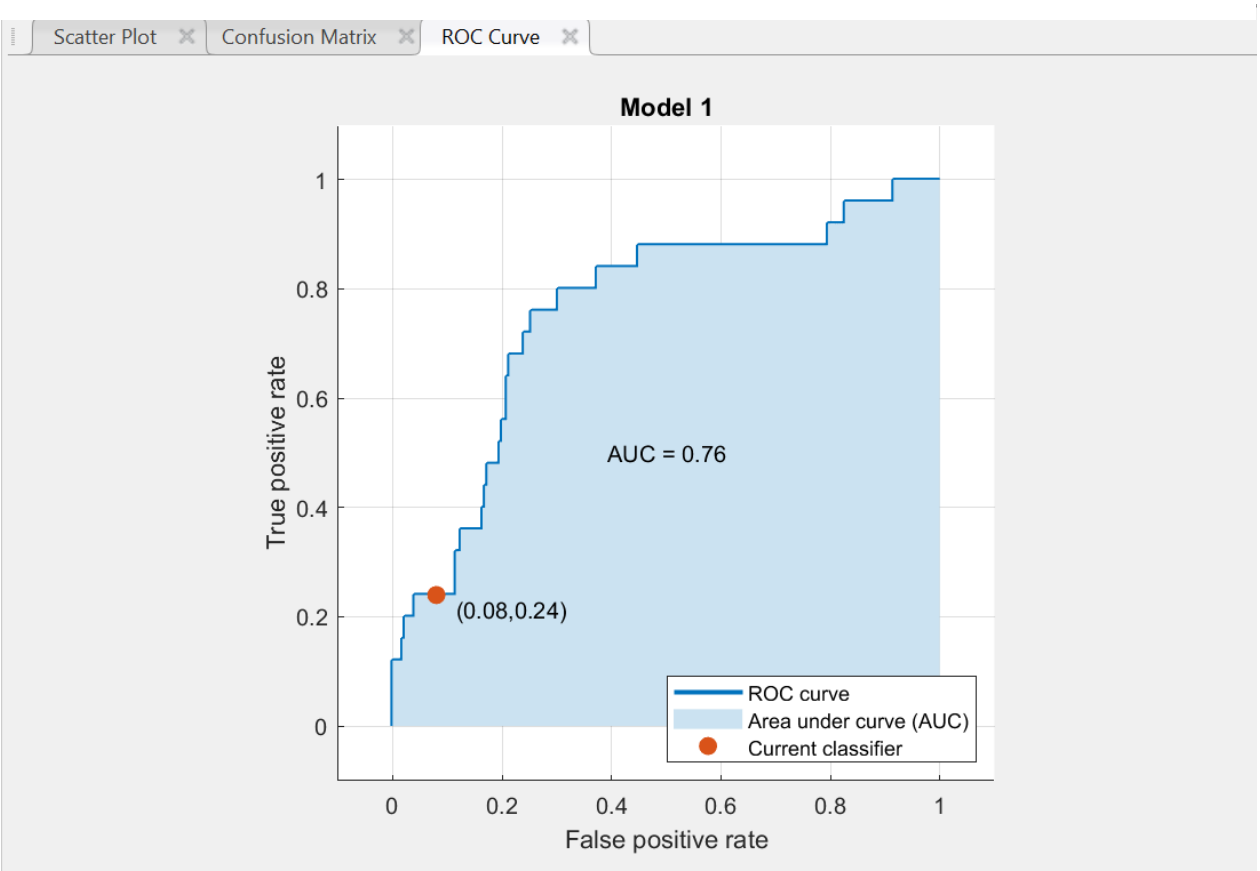
Algoritma	Veri Seti Bölümü	Accuracy	
Linear SVM	Data Batch5 İlk 1000 ham veri	24.0	
Linear Discriminant	Data Batch5	16.4	
Fine KNN	6000-7000 ham veri	22.0	
	Data Batch5		



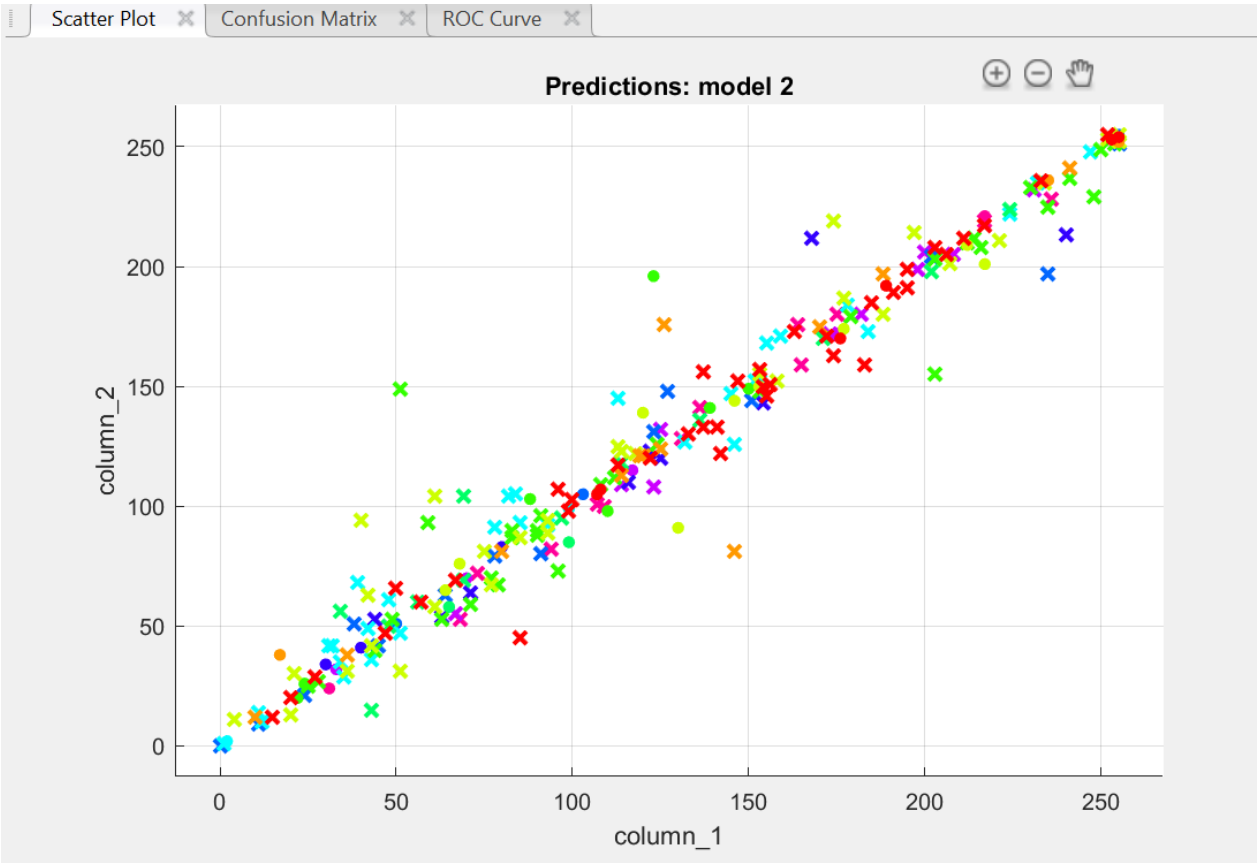
Resim 38. Data Batch 5-Lineear SVM-Dağılım Grafiği



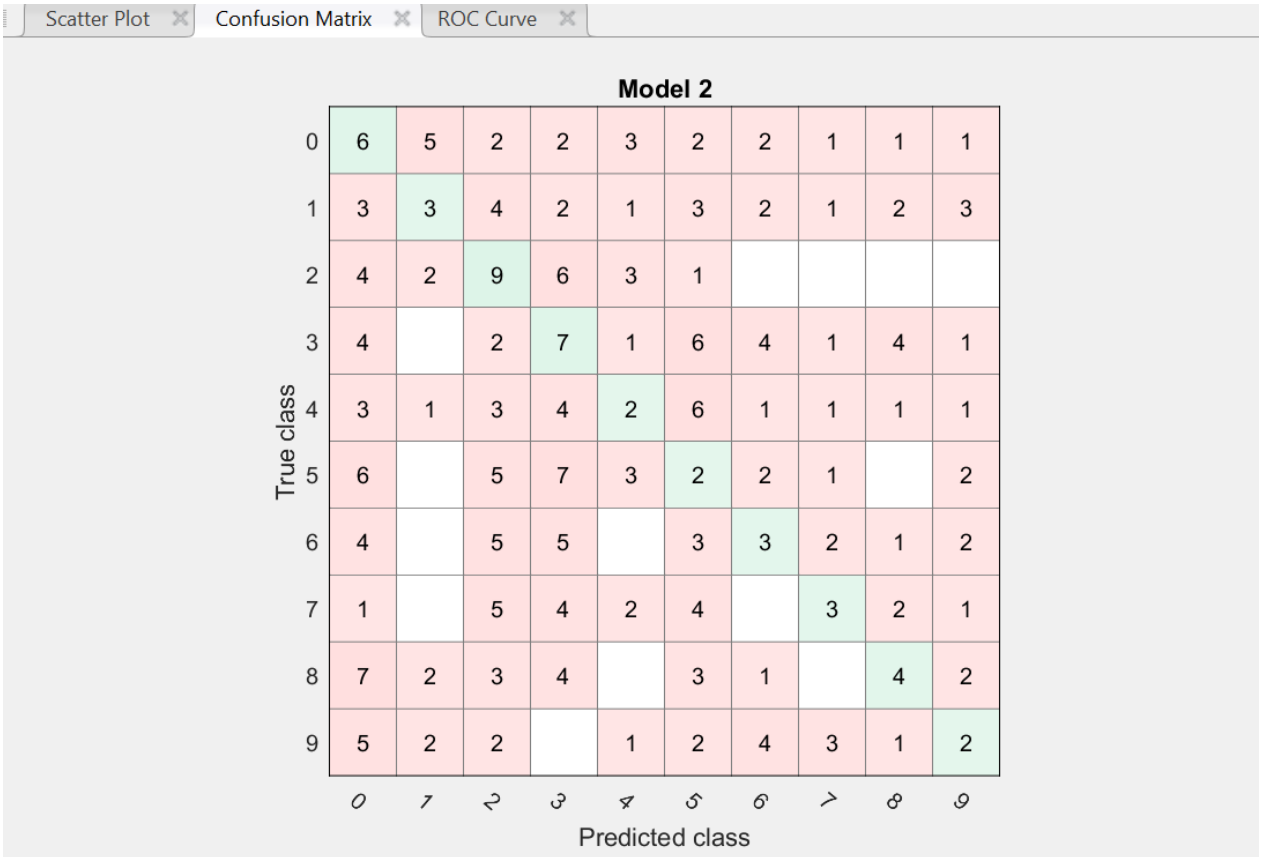
Resim 39. Data Batch 5-Lineear SVM-Confuzyon Matrisi



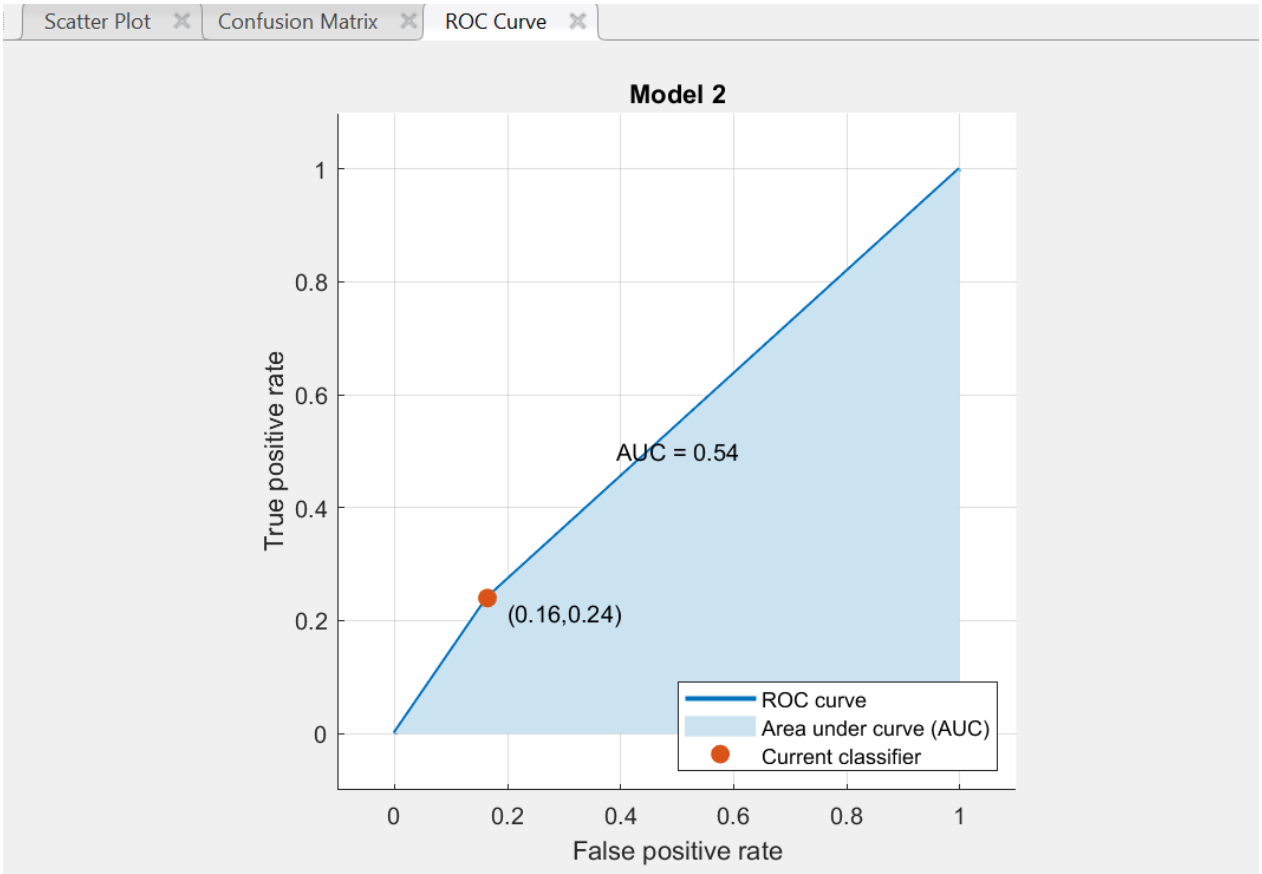
Resim 40. Data Batch 5-Lineear SVM-ROC Eğrisi



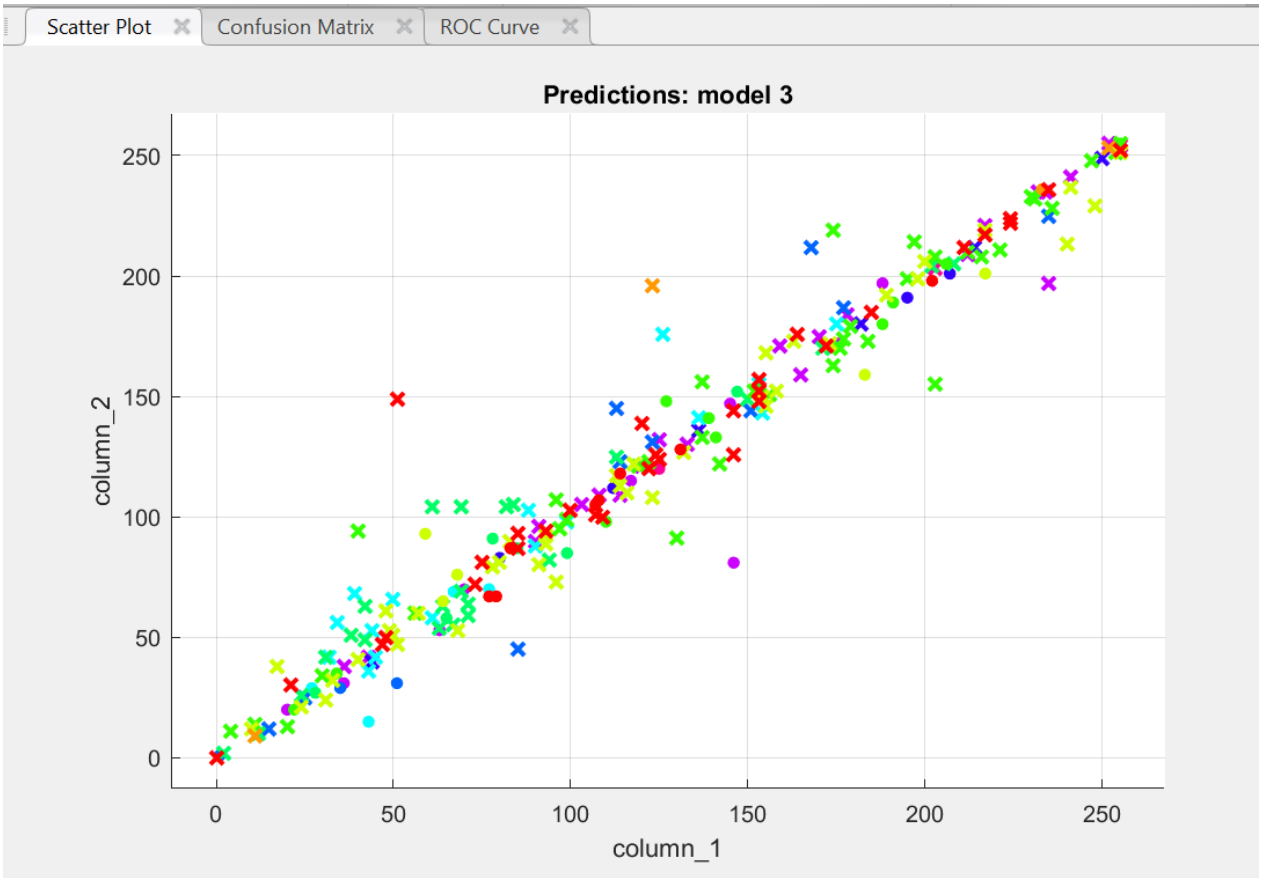
Resim 41. Data Batch 5-Lineear Discriminant-Dağılım Grafiği



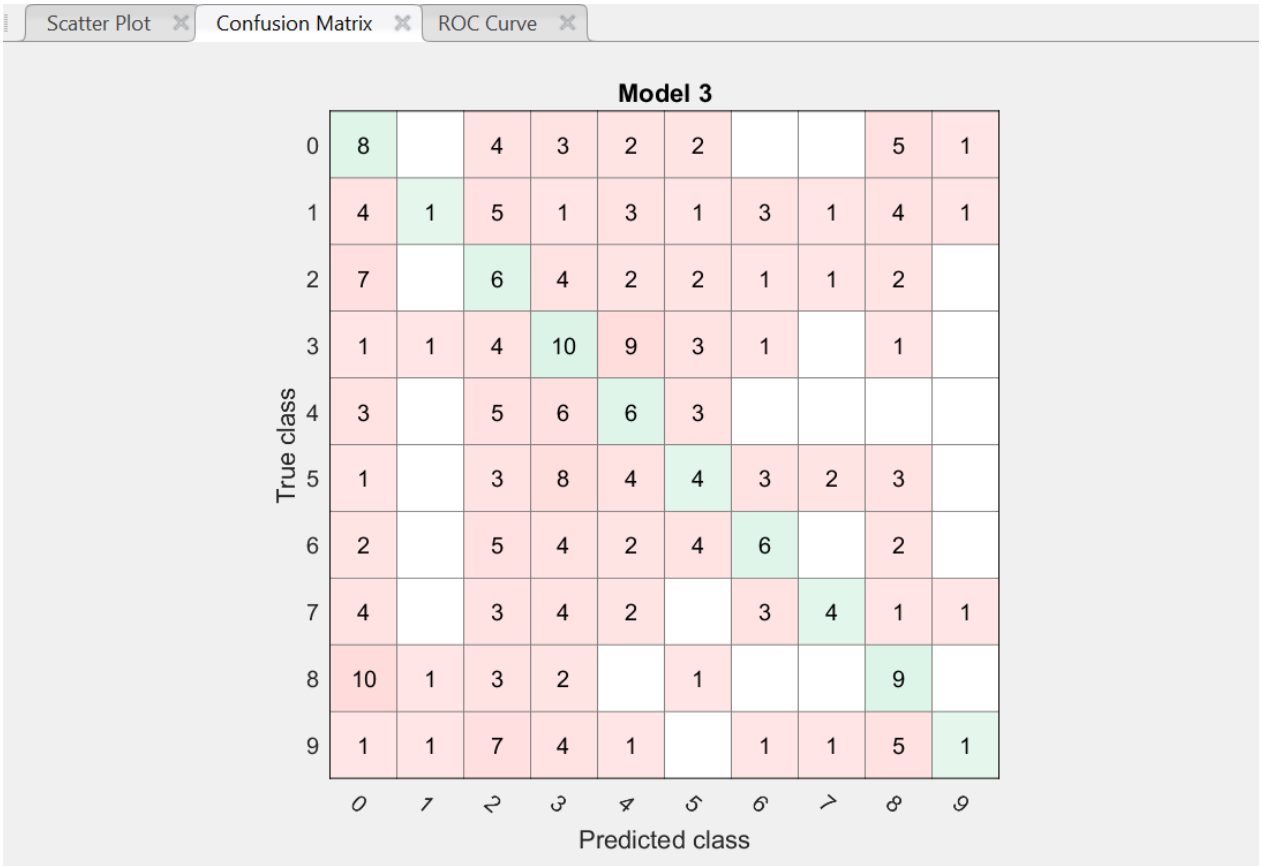
Resim 42. Data Batch 5-Lineear Discriminant-Confuzyon Matrisi



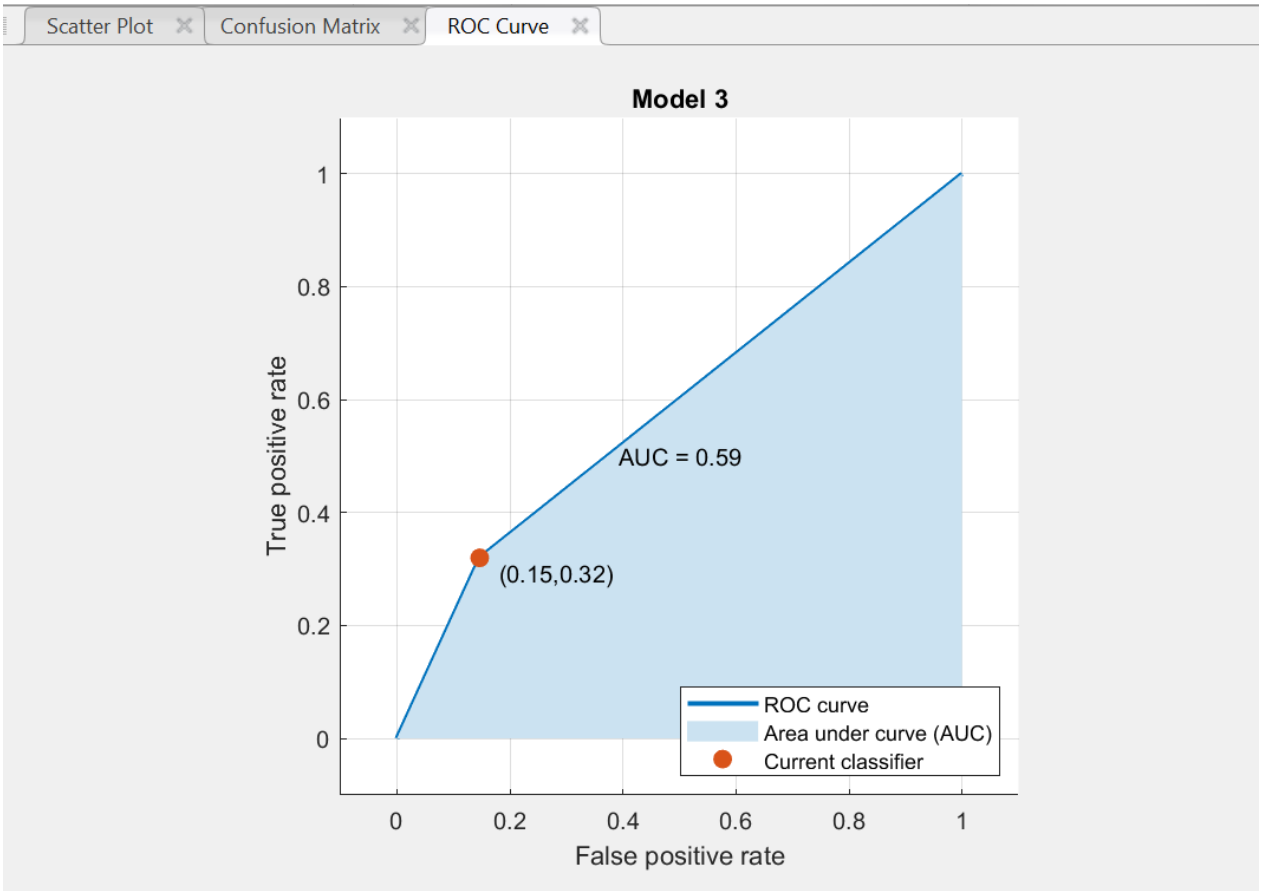
Resim 43. Data Batch 5-Lineear Discriminant-ROC Eğrisi



Resim 44. Data Batch 5-Fine KNN-Dağılım Grafiği



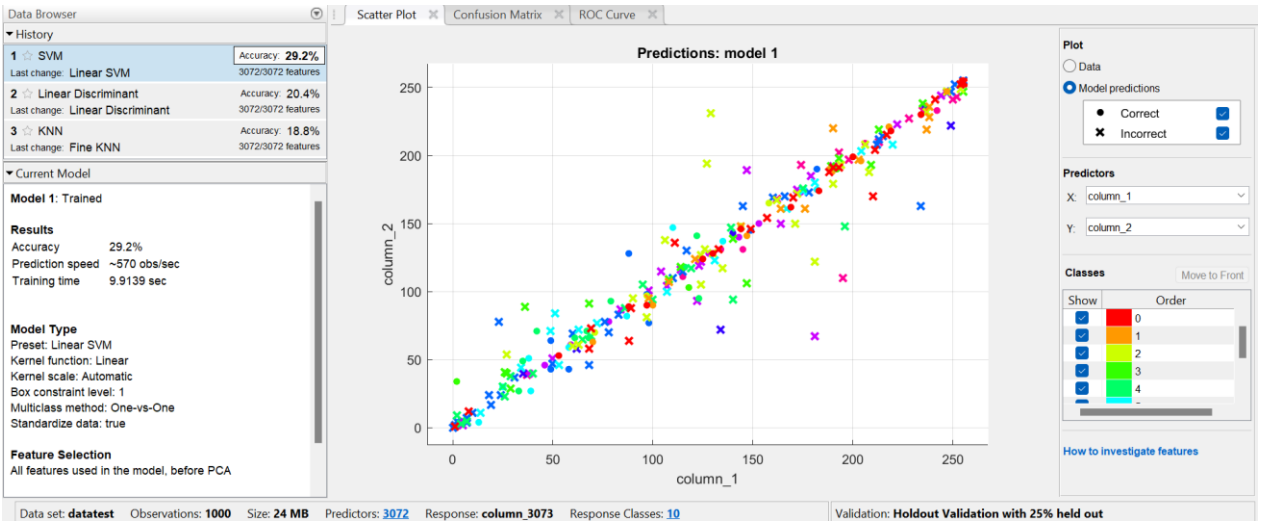
Resim 45. Data Batch 5-Fine KNN-Confuzyon Matrisi



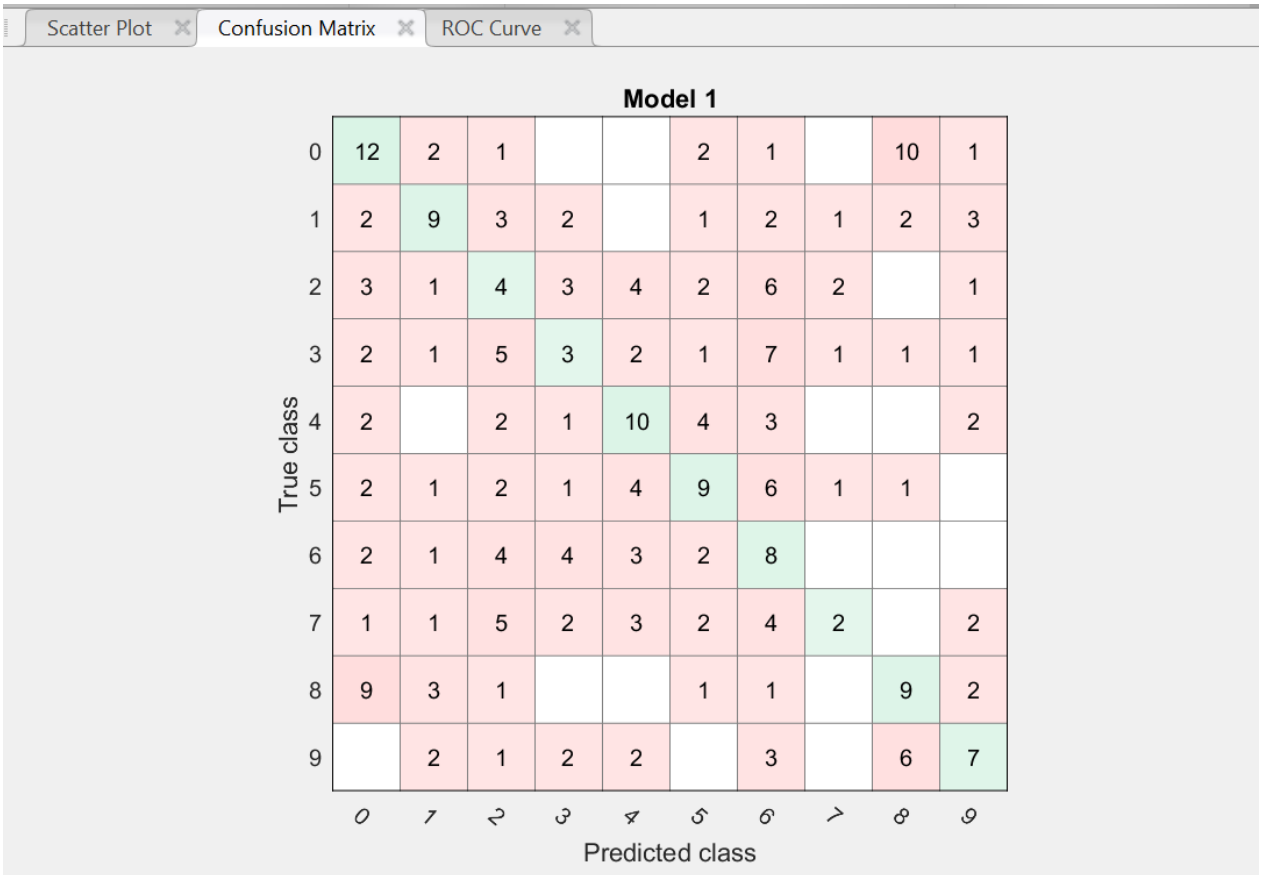
Resim 46. Data Batch 5-Fine KNN-ROC Eğrisi

Tablo 6. Data Batch Test için bulunan değerler.

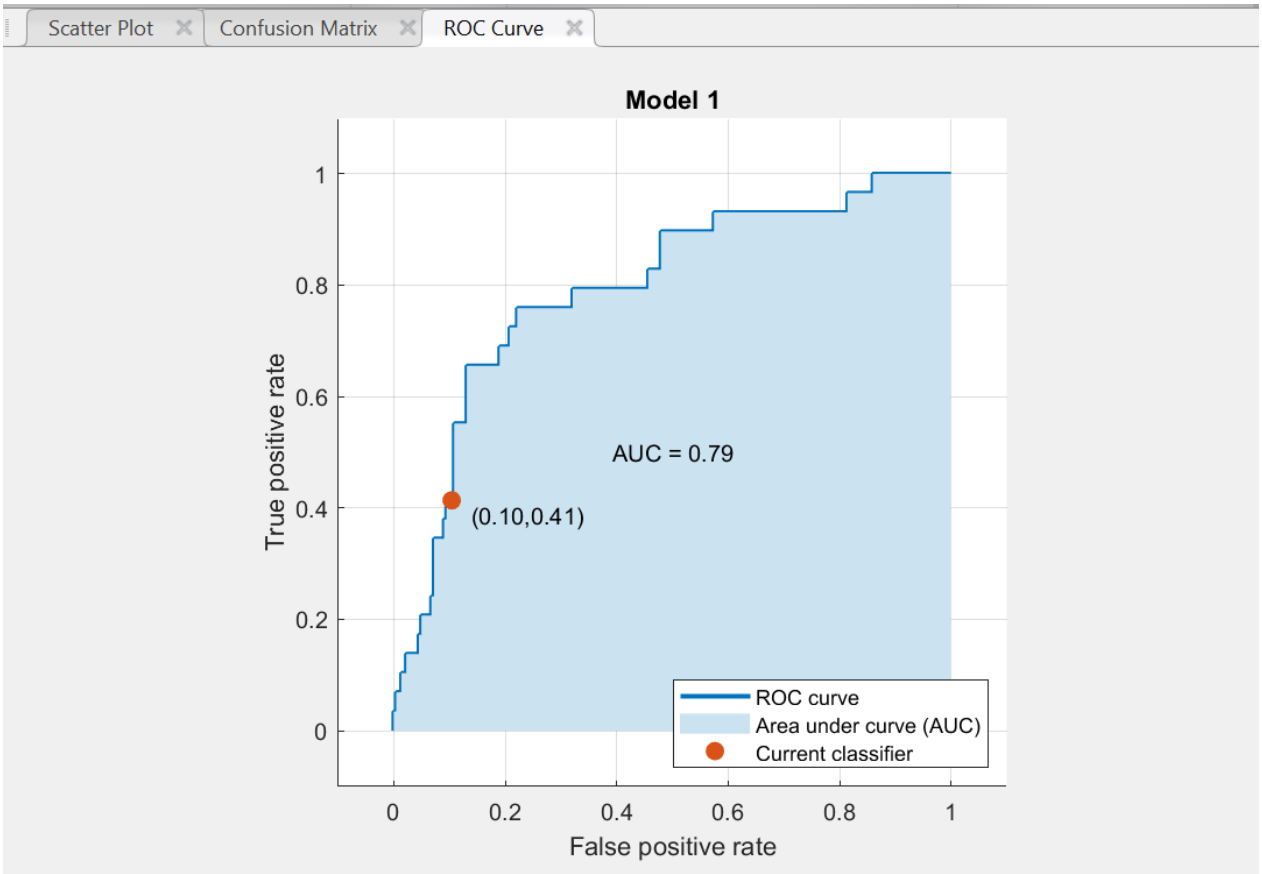
Algoritma	Veri Seti Bölümü	Accuracy	
Linear SVM	Data BatchTest İlk 1000 ham veri	29.2	
Linear Discriminant	Data BatchTest	20.4	
Fine KNN	6000-7000 ham veri	18.8	
	Data BatchTest		



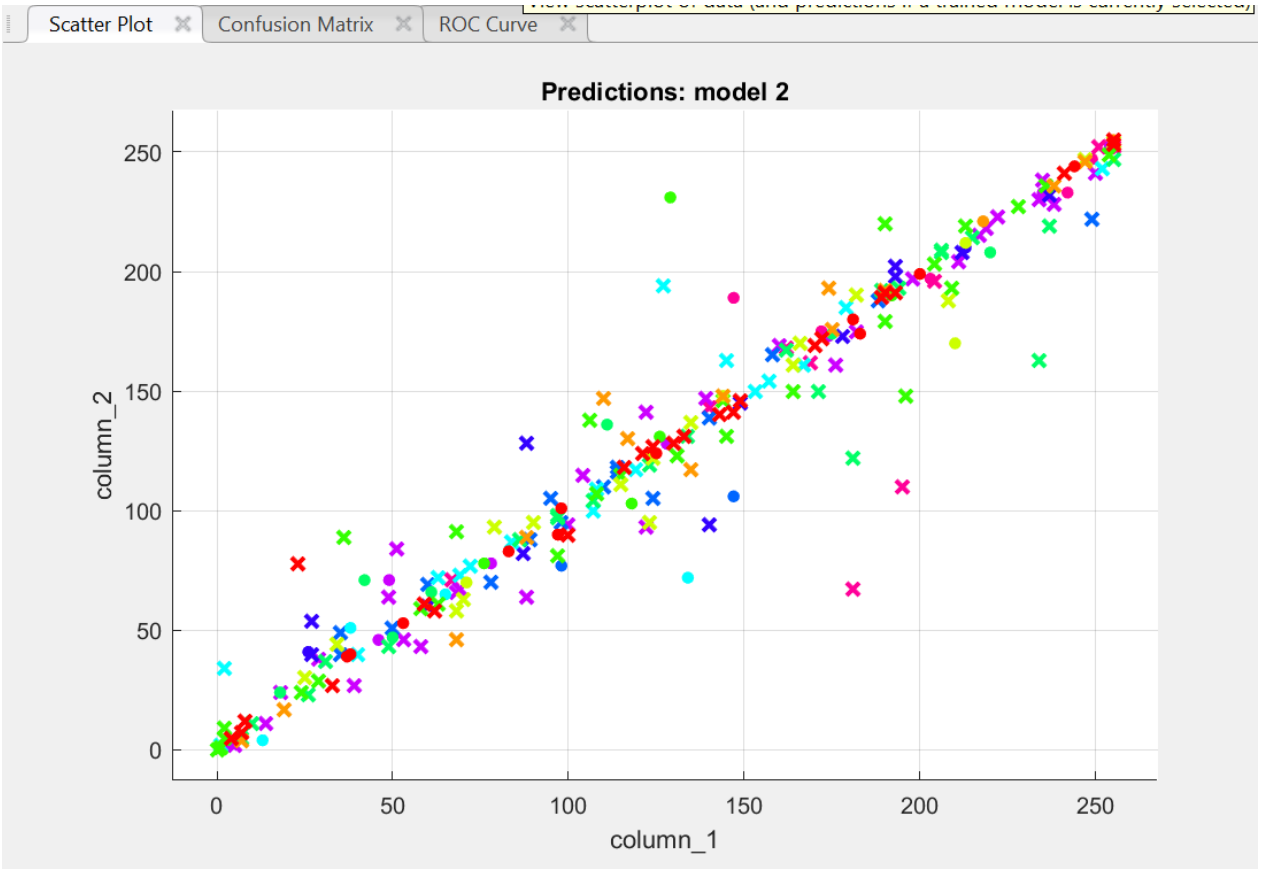
Resim 47. Data Batch Test-Lineear SVM-Dağılım Grafiği



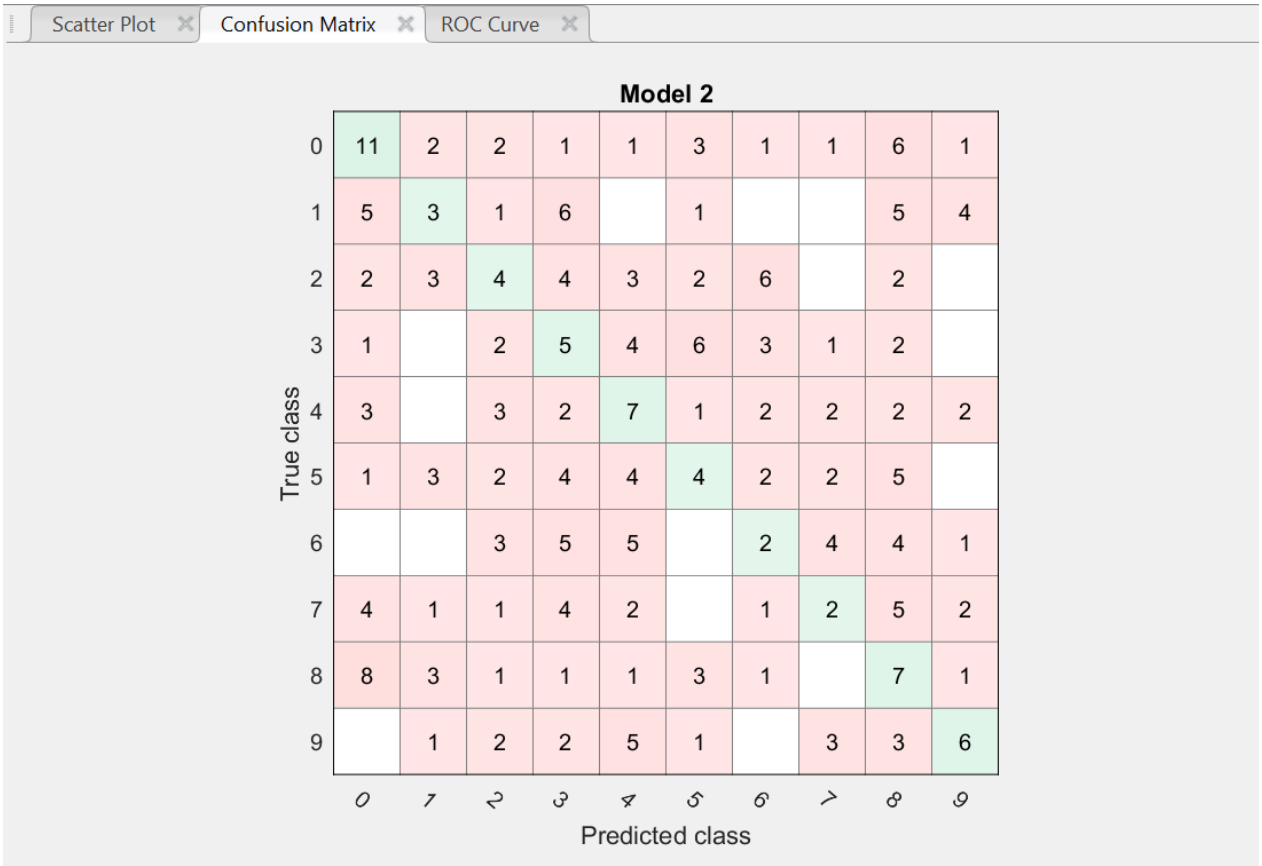
Resim 48. Data Batch Test-Lineear SVM-Confuzyon Matrisi



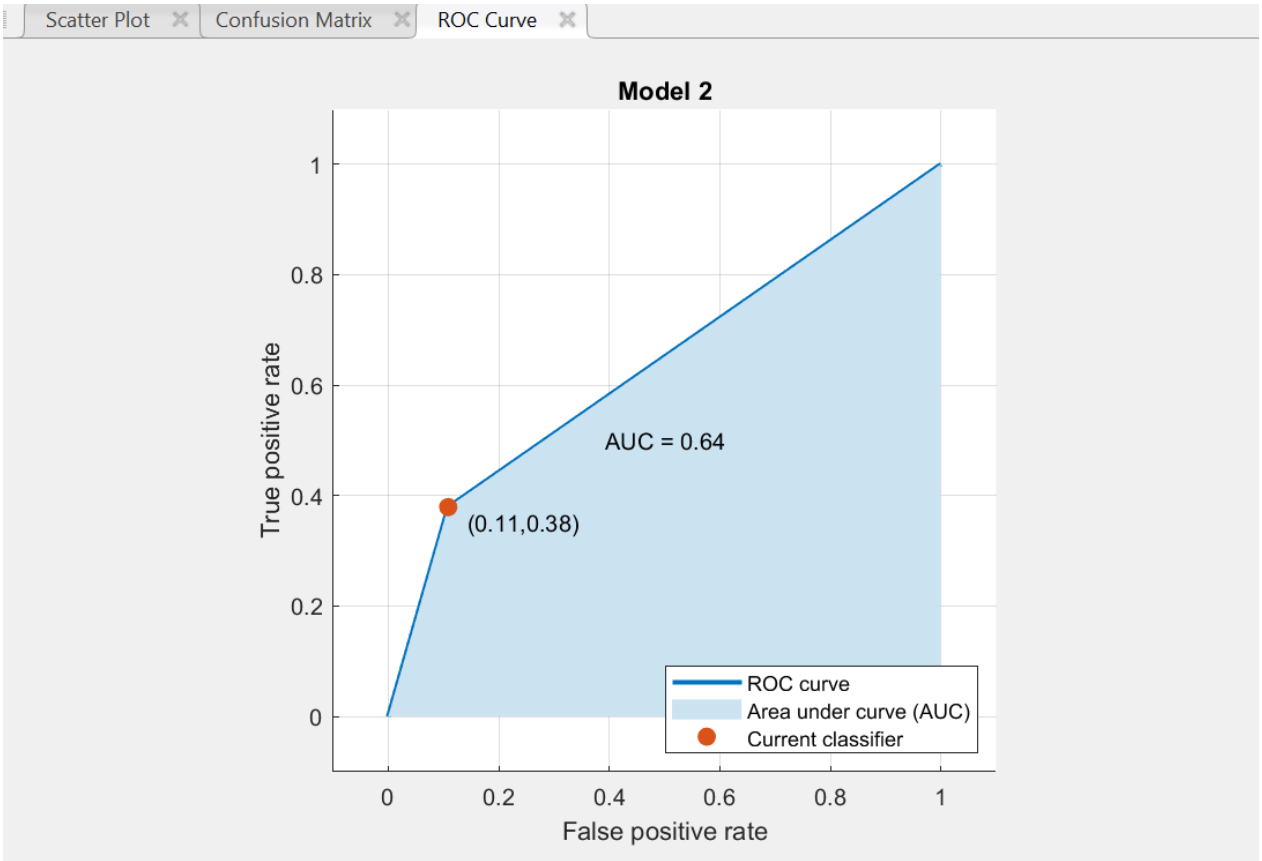
Resim 49. Data Batch Test-Lineear SVM-ROC Eğrisi



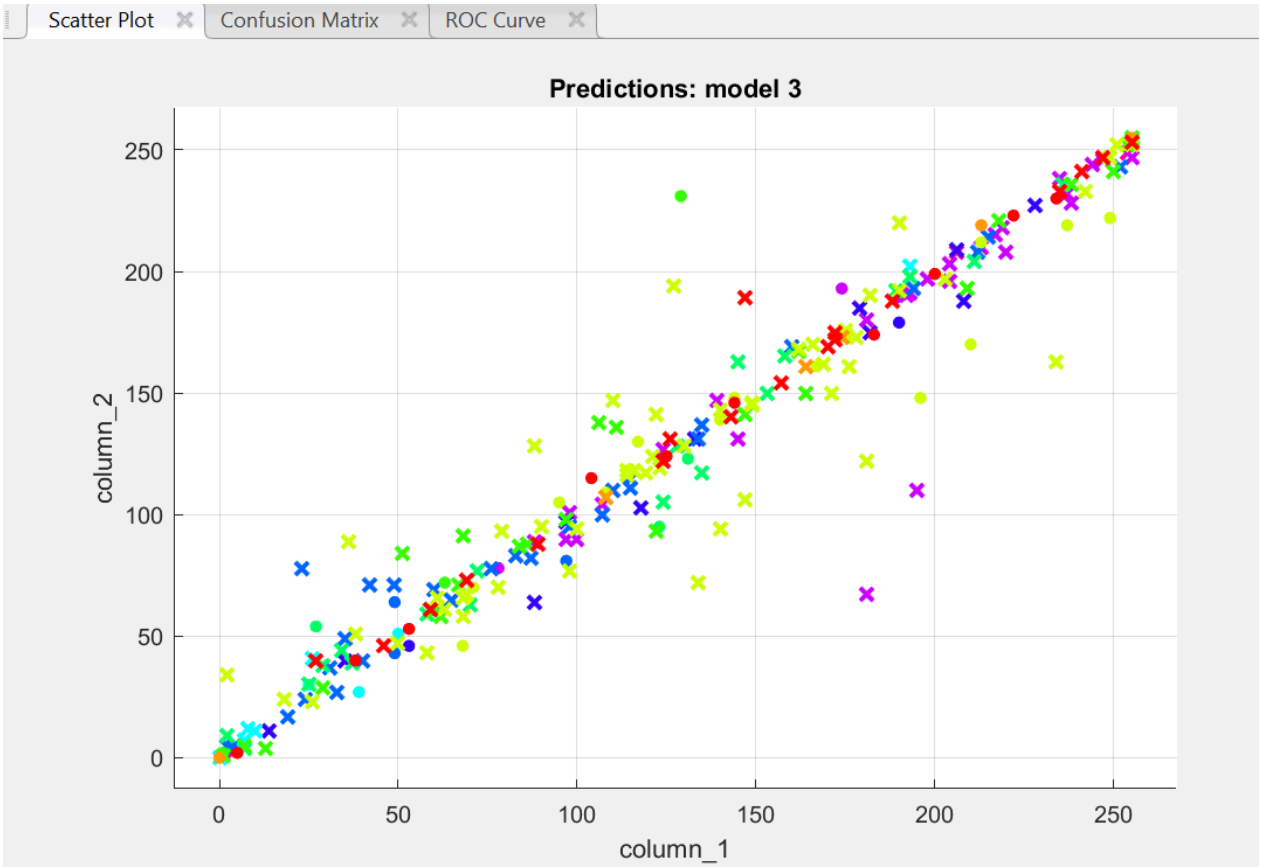
Resim 50. Data Batch Test-Lineear Discriminant-Dağılım Grafiği



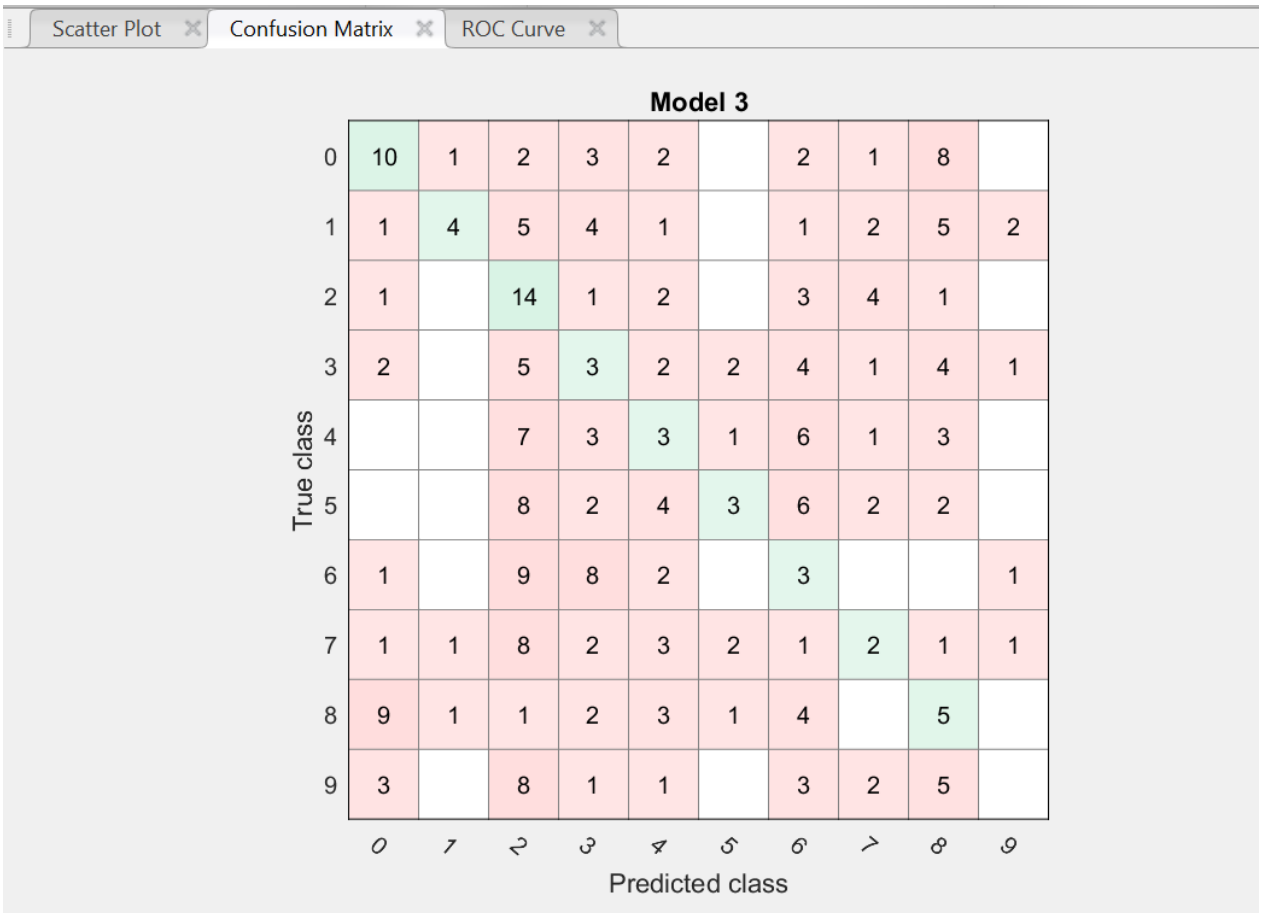
Resim 51. Data Batch Test-Lineear Discriminant-Confuzyon Matrisi



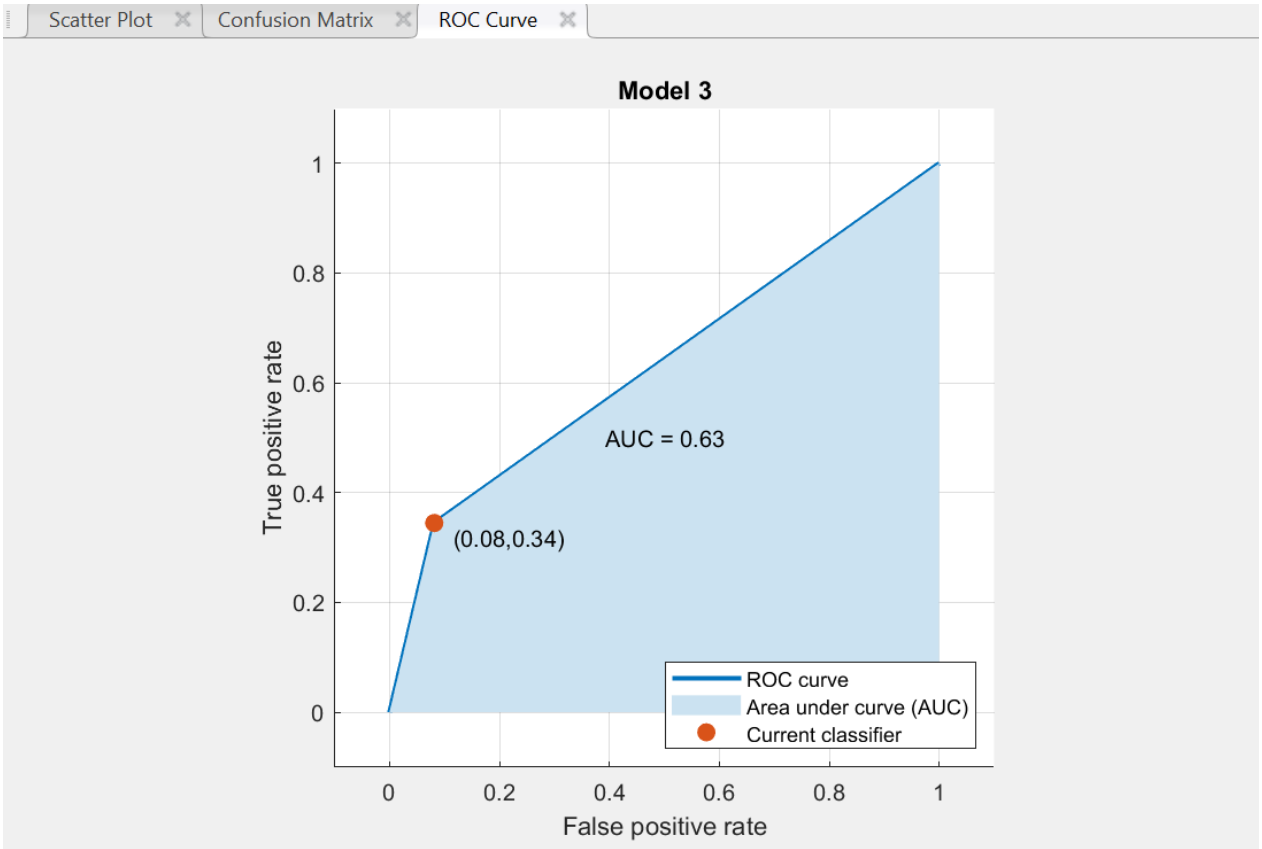
Resim 52. Data Batch Test-Lineear Discriminant-ROC Eğrisi



Resim 53. Data Batch Test-Fine KNN-Dağılım Grafiği



Resim 54. Data Batch Test-Fine KNN-Confuzyon Matrisi



Resim 55. Data Batch Test-Fine KNN-ROC Eğrisi