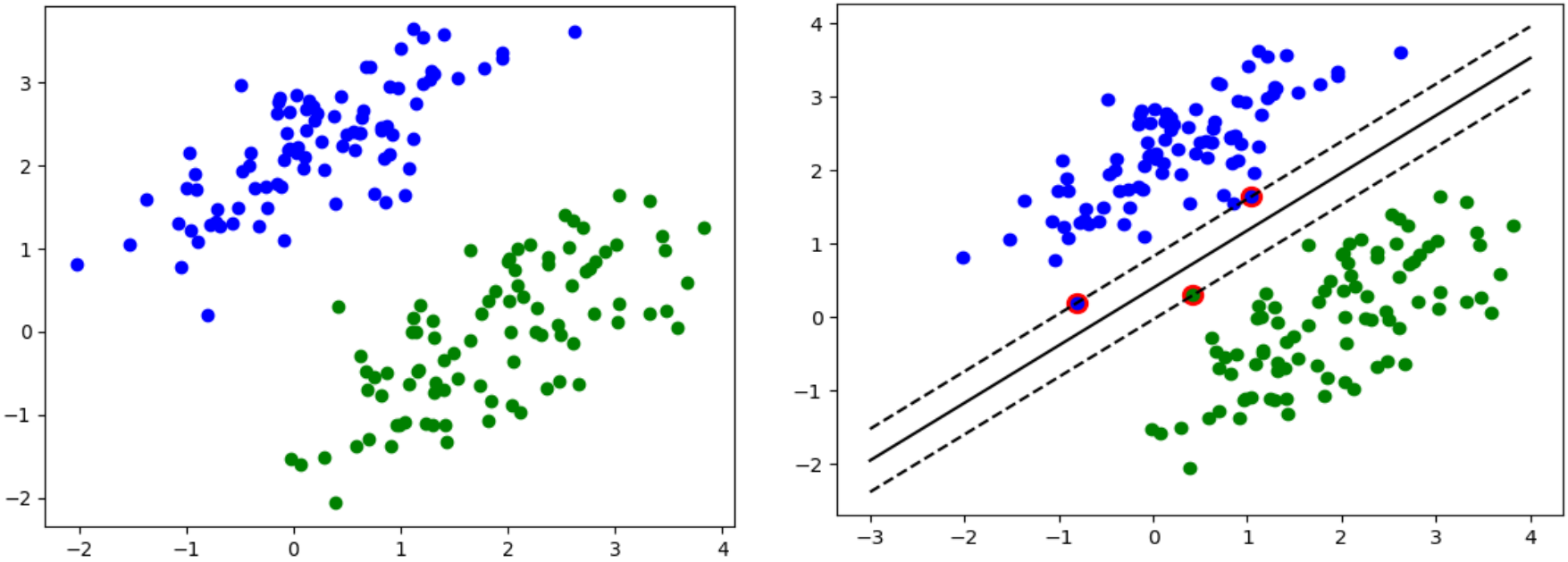
Результаты исследования

1. Hard-margin SVM – классификация (случай линейной разделимости данных/сепарабельный случай)

Margin (ширина полосы) = 0,68

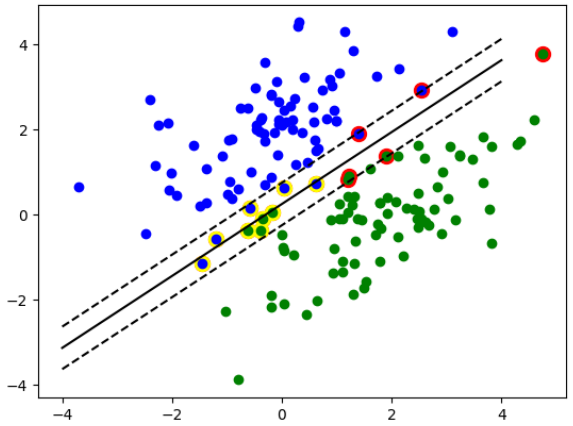
Кол-во опорных векторов = 3



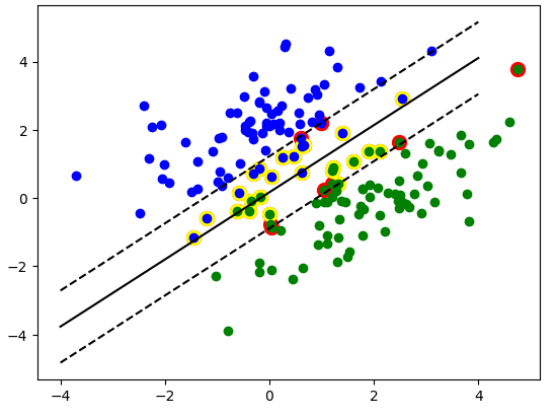
Linear kernel, hard-margin (N=3, M=0,68)

2. Soft-margin SVM – классификация (случай линейной неразделимости данных/несепарабельный случай)

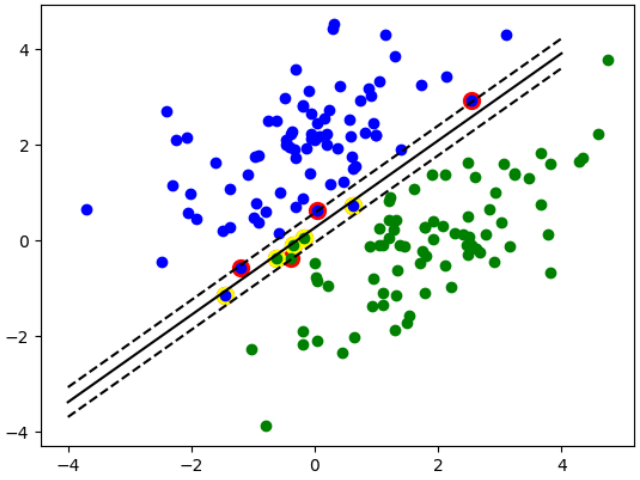
Linear kernel, C=1, USV=6, BSV=9, M=0,76



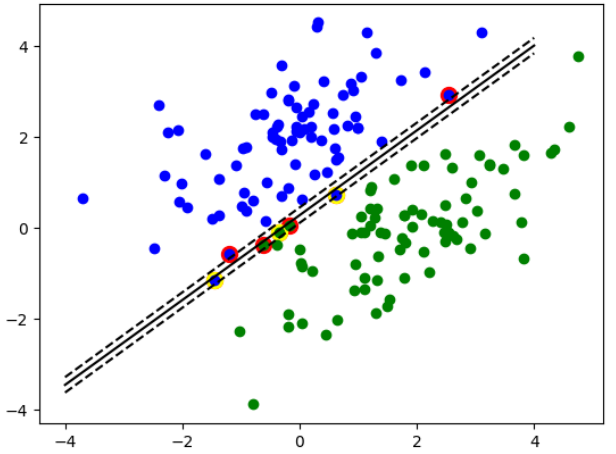
Linear kernel, C=0,1, USV=9, BSV=24, M=1,51



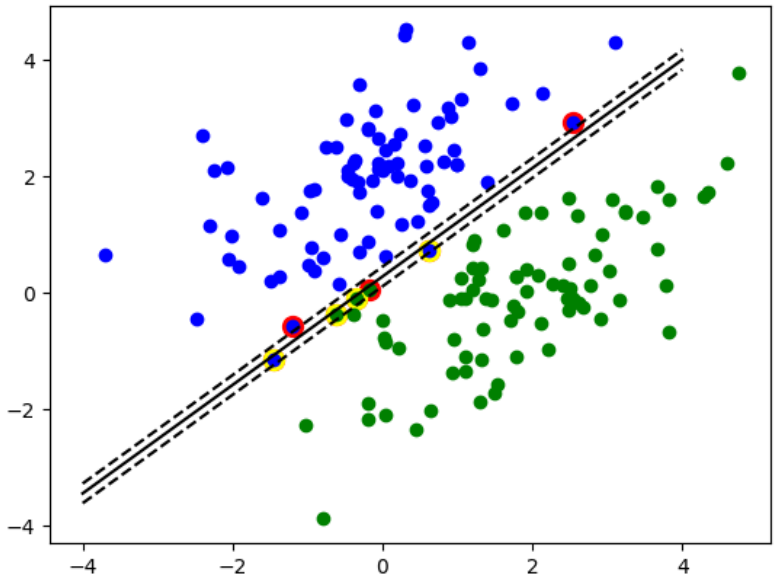
Linear kernel, C=10, USV=4, BSV=5, M=0,46



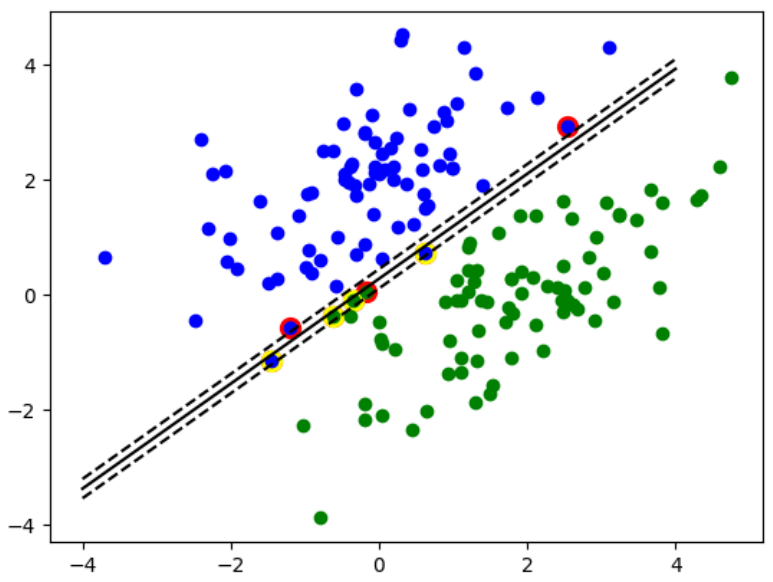
Linear kernel, C=100, USV=3, BSV=4, M=0,25



Linear kernel, C=1000, USV=3, BSV=4, M=0,25

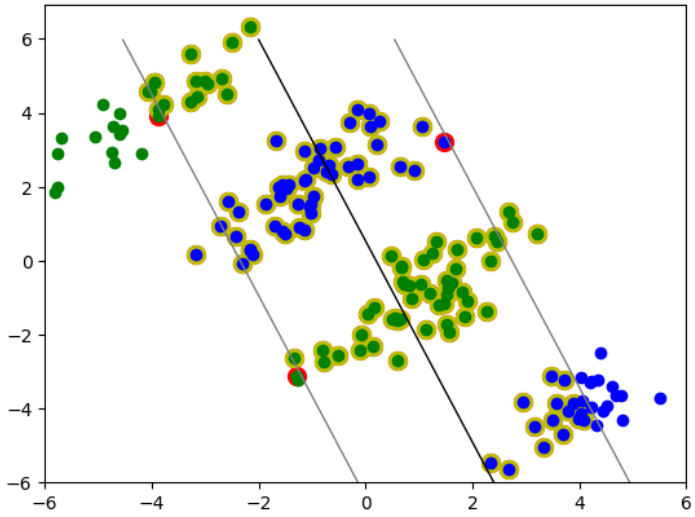


Linear kernel, C=10000, USV=3, BSV=4, M=0,25

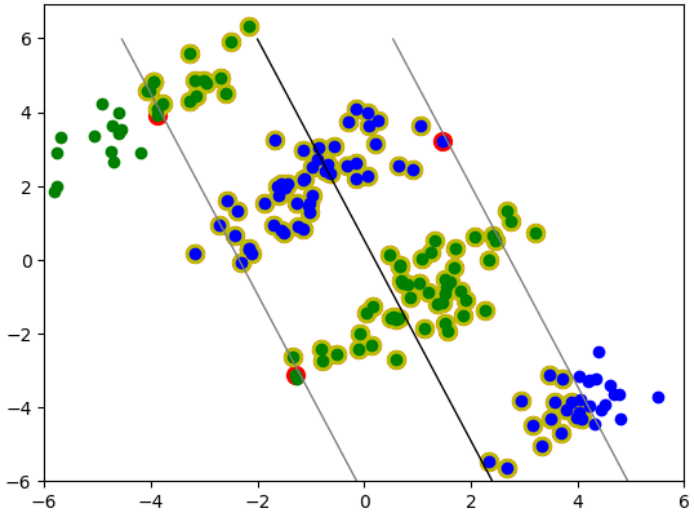


3. Non-linear SVM – классификация (нелинейное обучение): хорошо разделенные данные

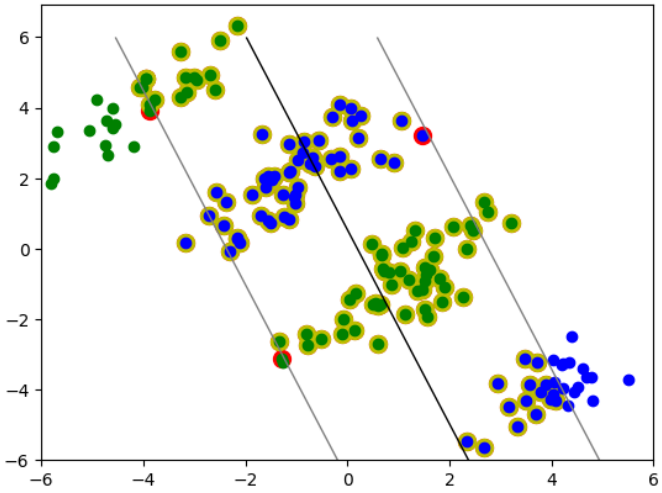
Linear kernel, C=1, USV=3, BSV=128



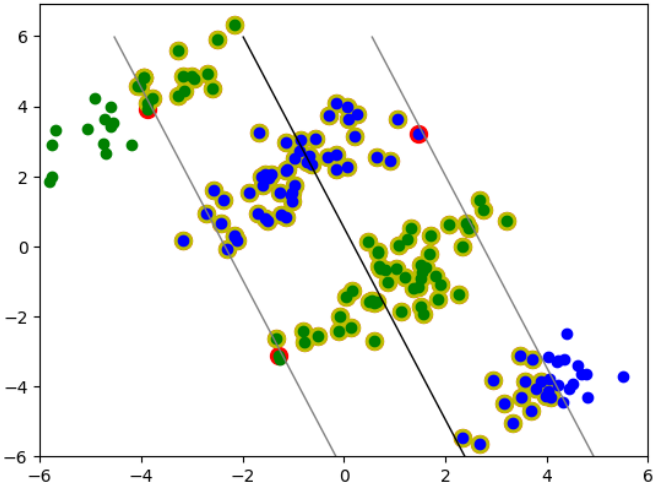
Linear kernel, C=0,1, USV=3, BSV=128



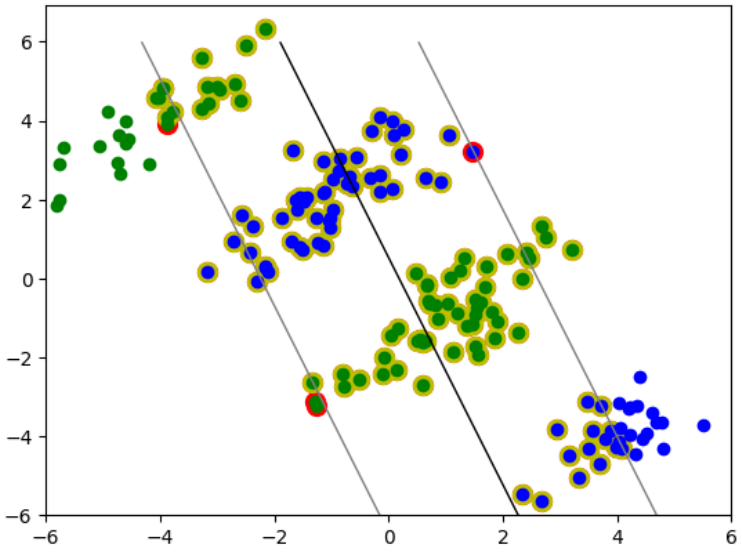
Linear kernel, C=10, USV=3, BSV=128



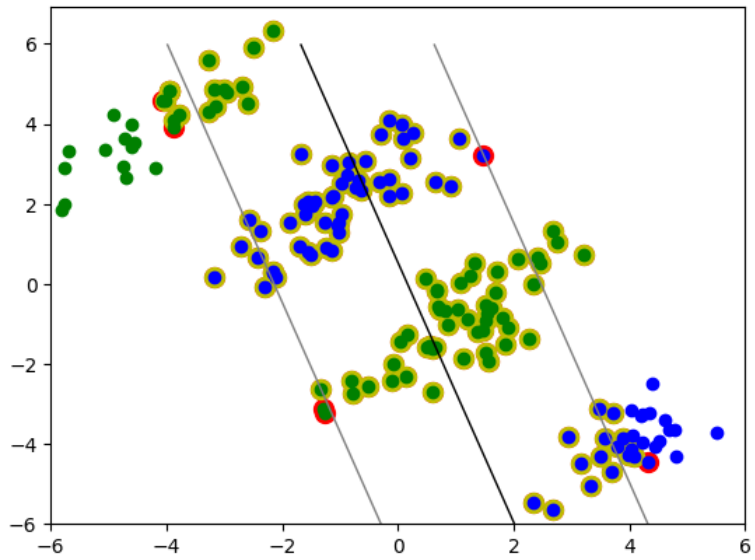
Linear kernel, C=100, USV=3, BSV=128



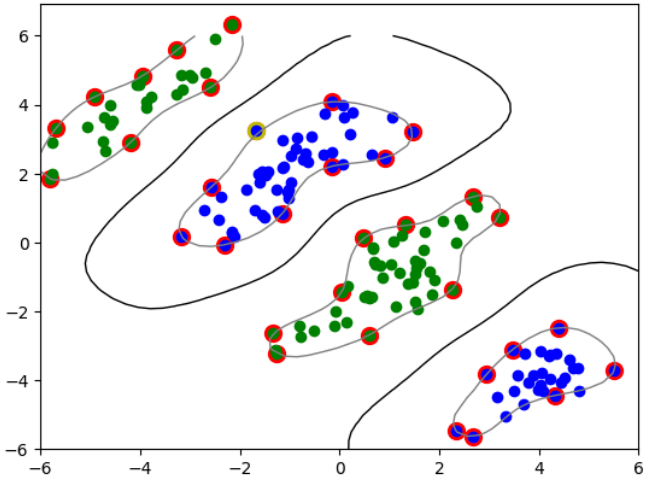
Linear kernel, C=1000, USV=4, BSV=128



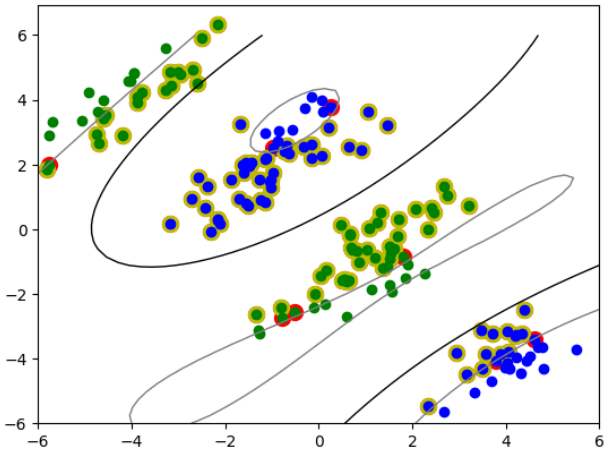
Linear kernel, C=10000, USV=6, BSV=127



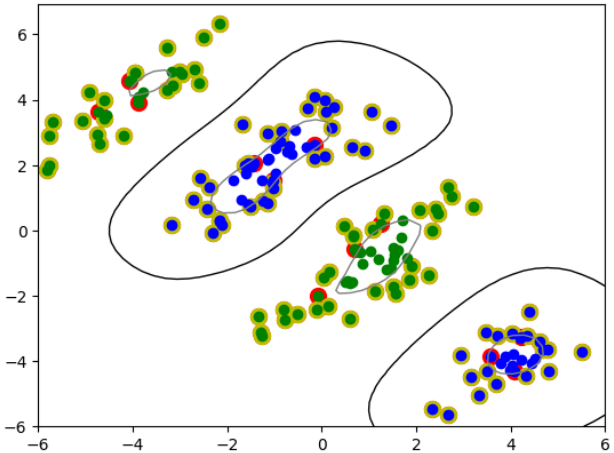
Gaussian kernel, C=1, σ=1, USV=32, BSV=1



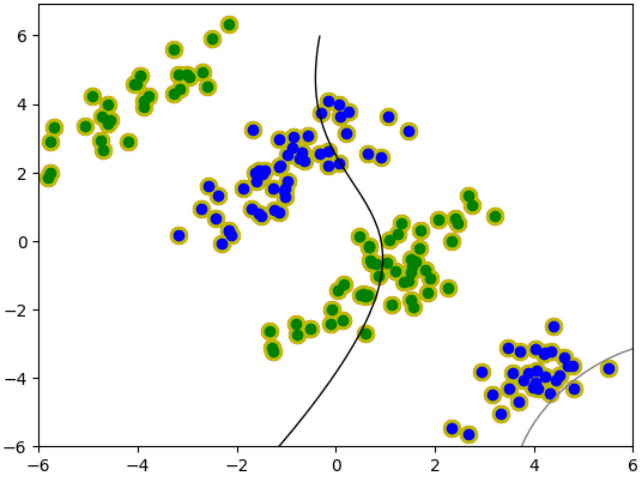
Gaussian kernel, C=1, σ=5, USV=8, BSV=107



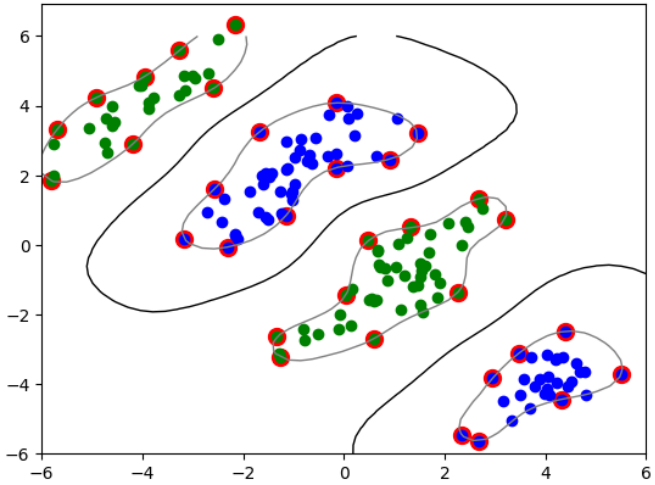
Gaussian kernel, C=0,1, σ=1, USV=12, BSV=101



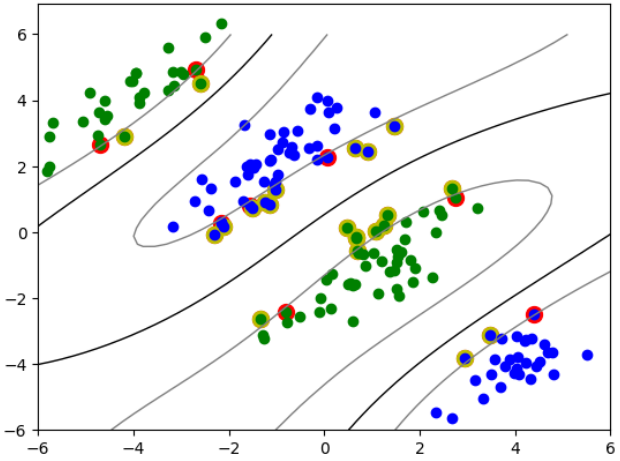
Gaussian kernel, C=0,1, σ=5, USV=0, BSV=160



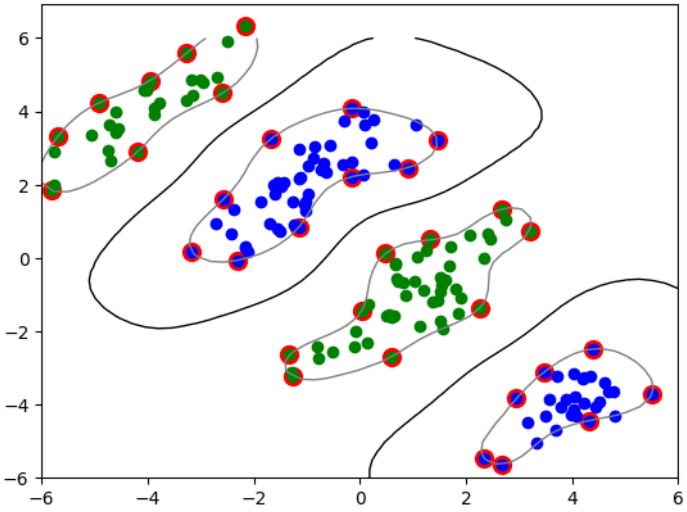
Gaussian kernel, C=10, σ=1, USV=33, BSV=0



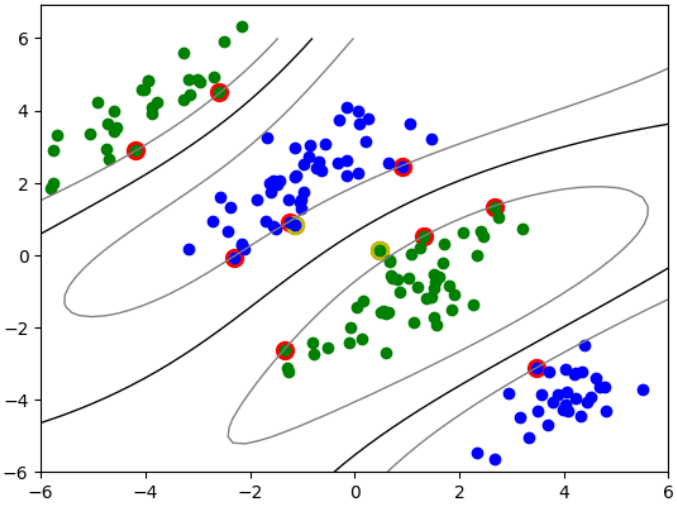
Gaussian kernel, C=10, σ=5, USV=8, BSV=22



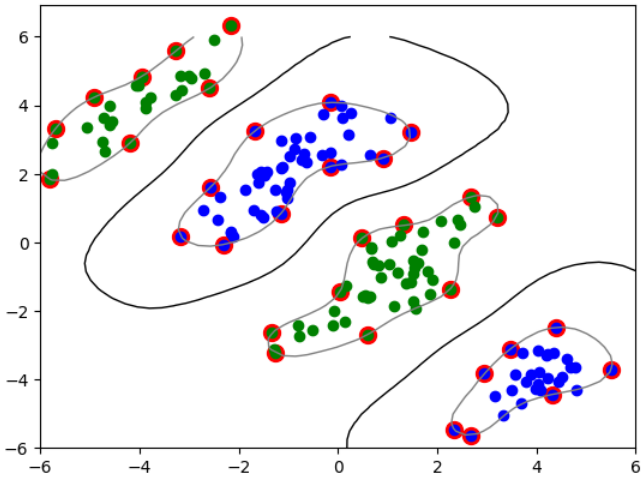
Gaussian kernel, C=100, σ=1, USV=33, BSV=0



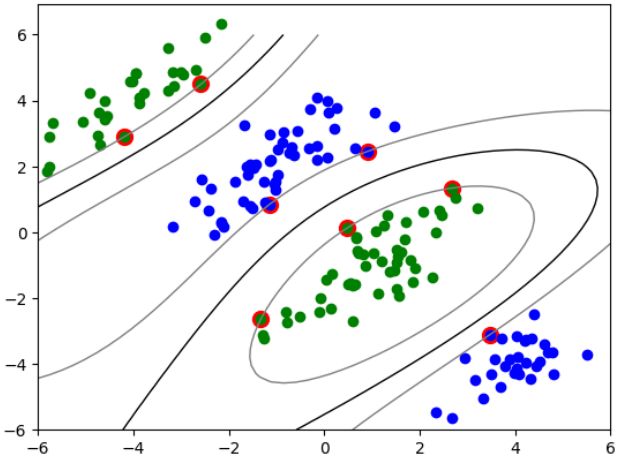
Gaussian kernel, C=100, σ=5, USV=9, BSV=2



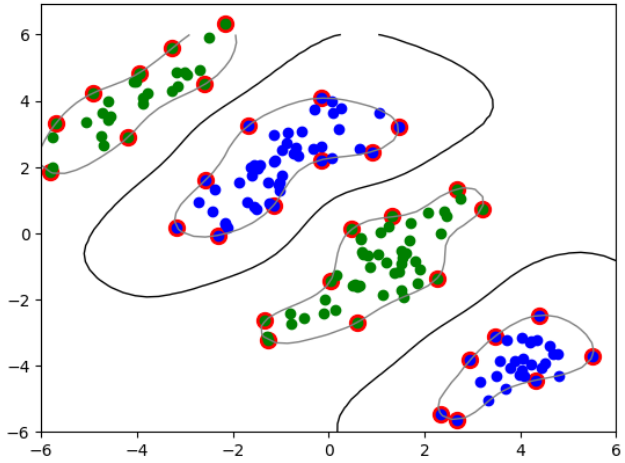
Gaussian kernel, C=1000, σ=1, USV=33, BSV=0



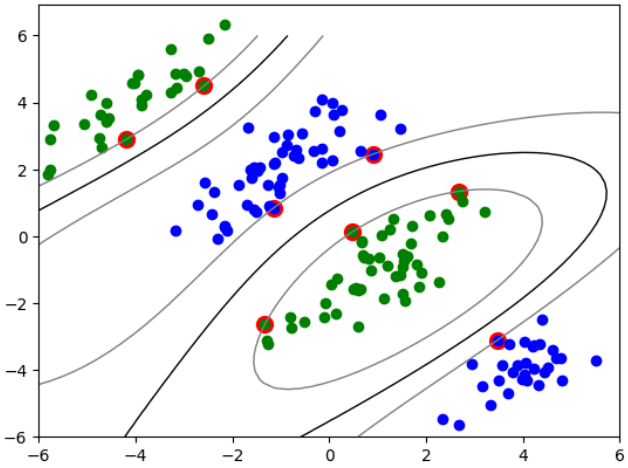
Gaussian kernel, C=1000, σ=5, USV=8, BSV=0



Gaussian kernel, C=10000, σ=1, USV=33, BSV=0

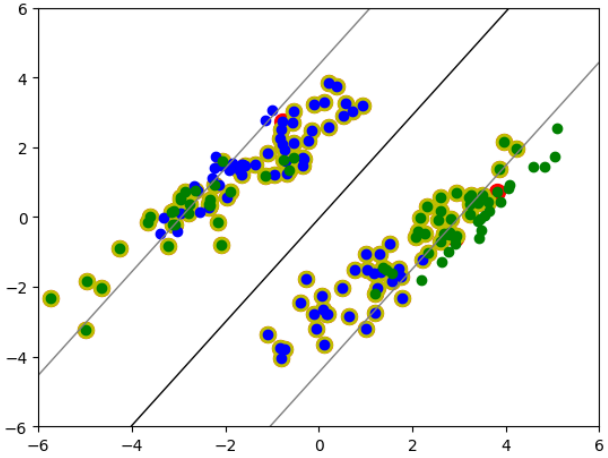


Gaussian kernel, C=10000, σ=5, USV=8, BSV=0

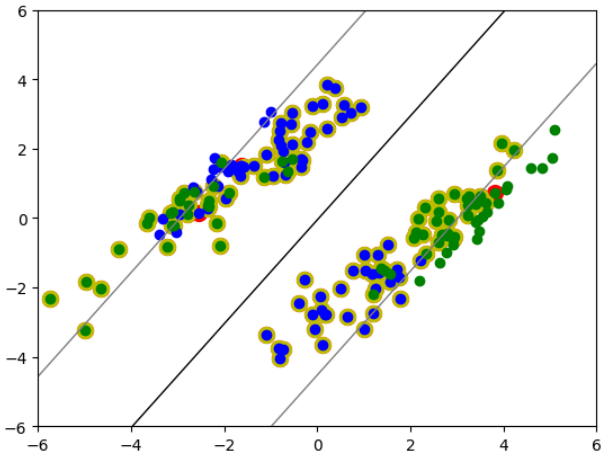


Non-linear SVM – классификация (нелинейное обучение): плохо разделенные данные

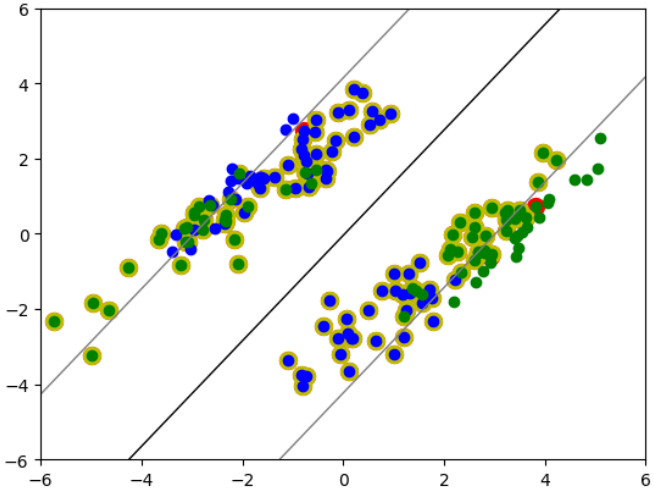
Linear kernel, C=1, USV=3, BSV=124



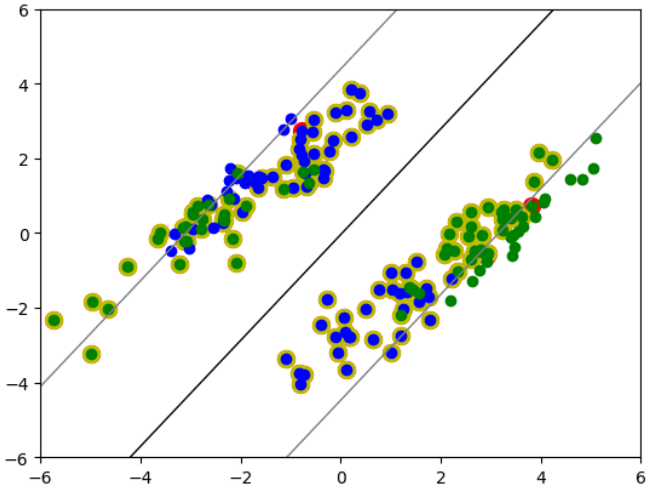
Linear kernel, C=0,1, USV=3, BSV=124



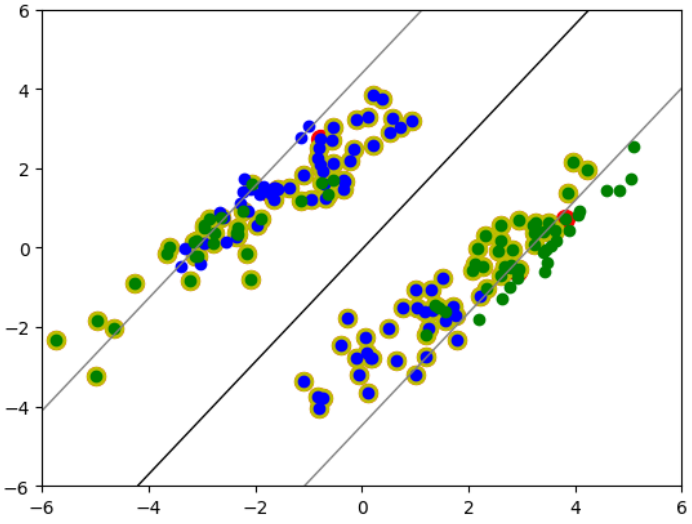
Linear kernel, C=10, USV=3, BSV=122



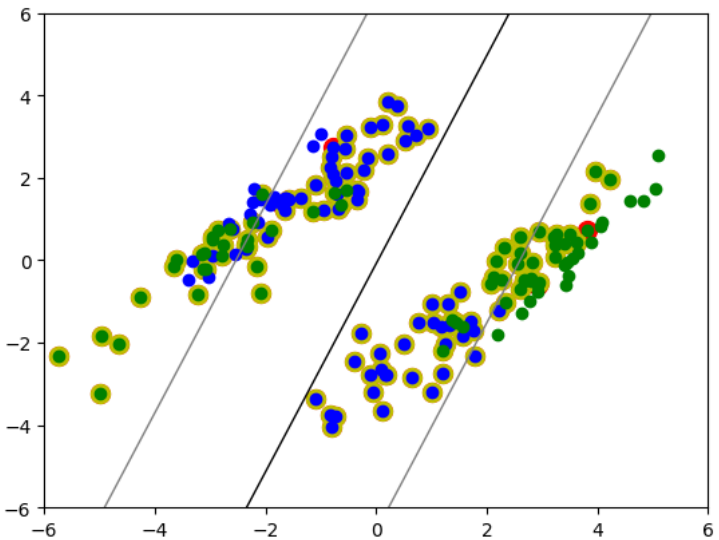
Linear kernel, C=100, USV=4, BSV=121



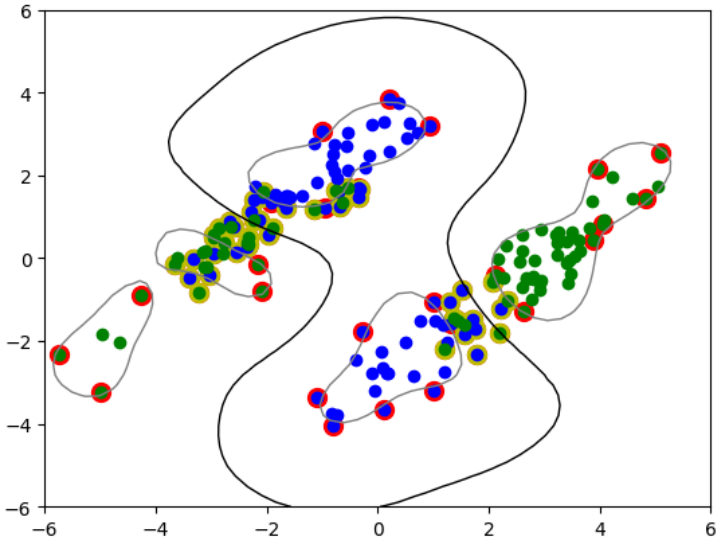
Linear kernel, C=1000, USV=3, BSV=122



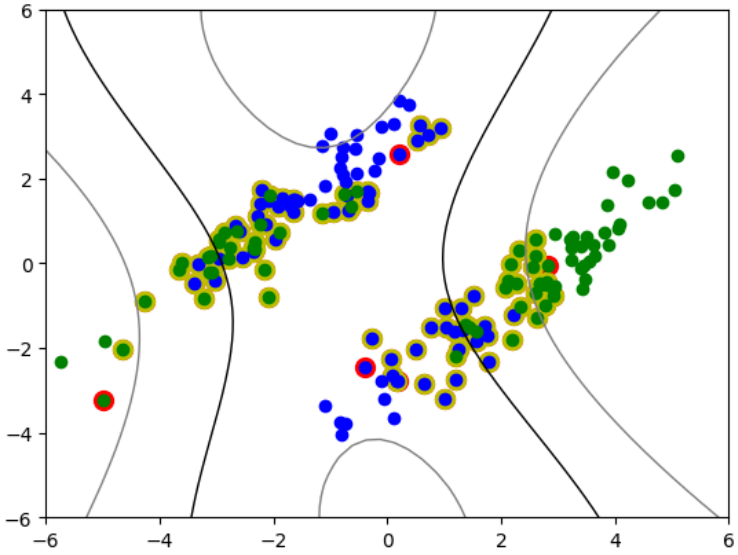
Linear kernel, C=10000, USV=4, BSV=121



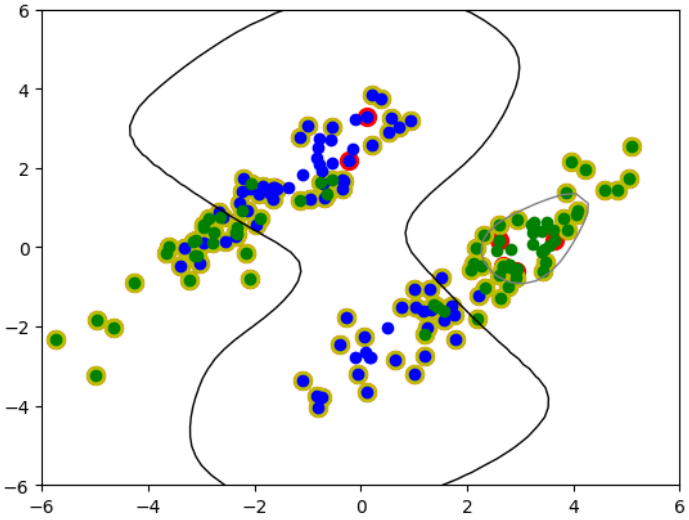
Gaussian kernel, C=1, σ=1, USV=25, BSV=48



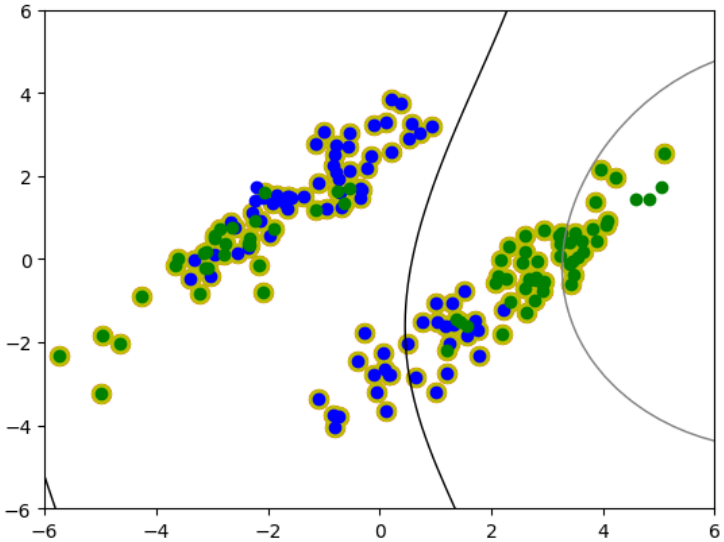
Gaussian kernel, C=1, σ=5, USV=5, BSV=98



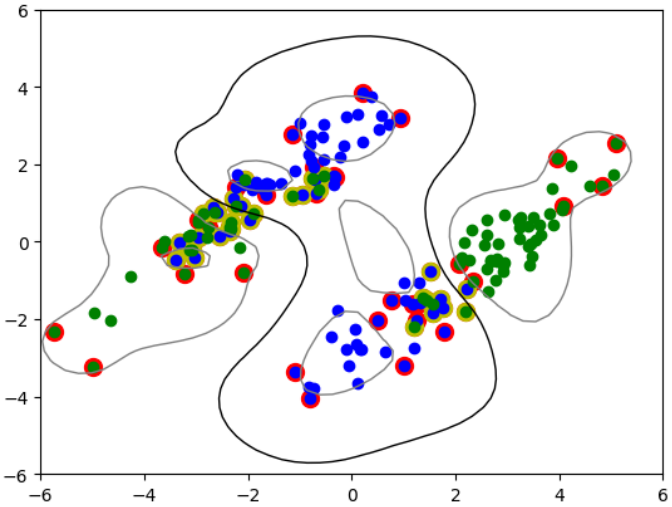
Gaussian kernel, C=0,1, σ=1, USV=7, BSV=122



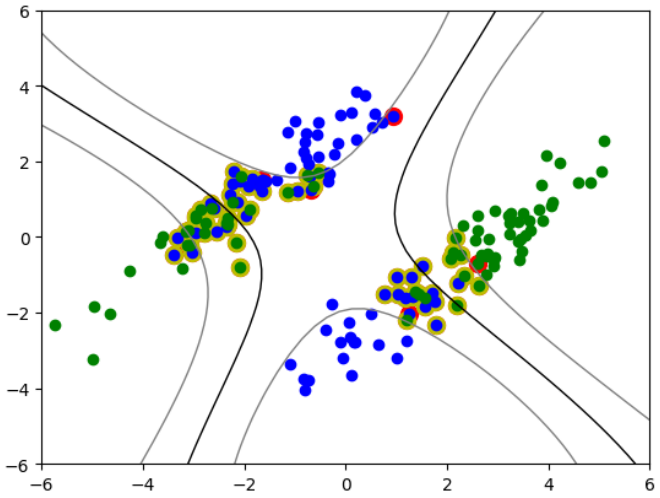
Gaussian kernel, C=0,1, σ=5, USV=0, BSV=154



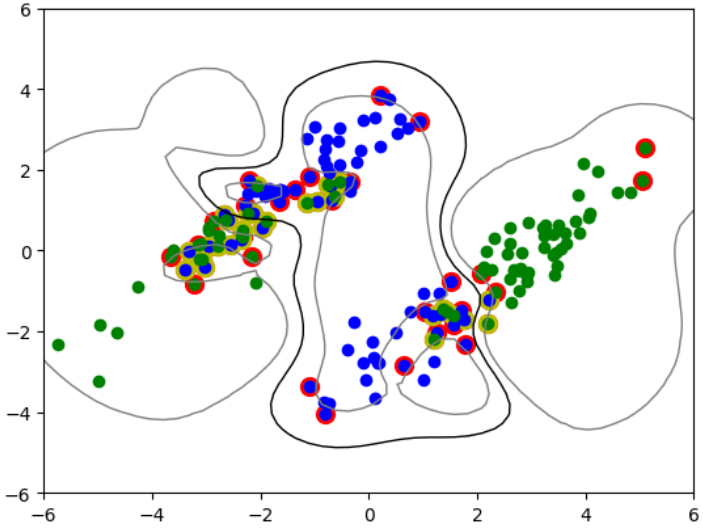
Gaussian kernel, C=10, σ=1, USV=32, BSV=36



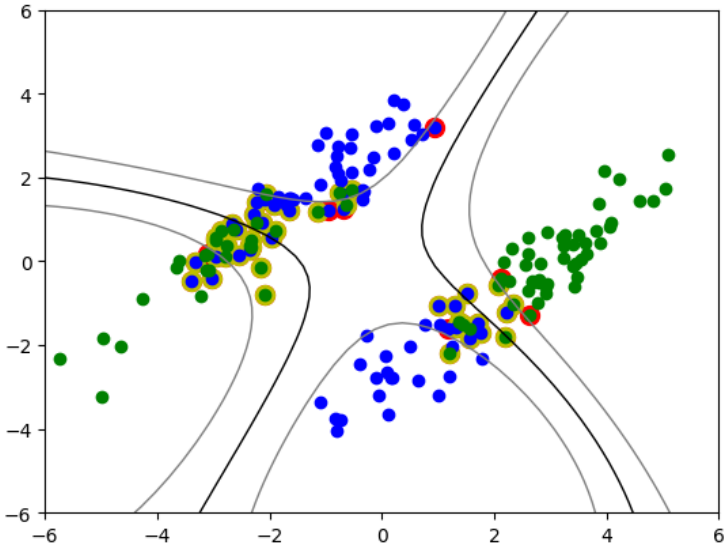
Gaussian kernel, C=10, σ=5, USV=6, BSV=63



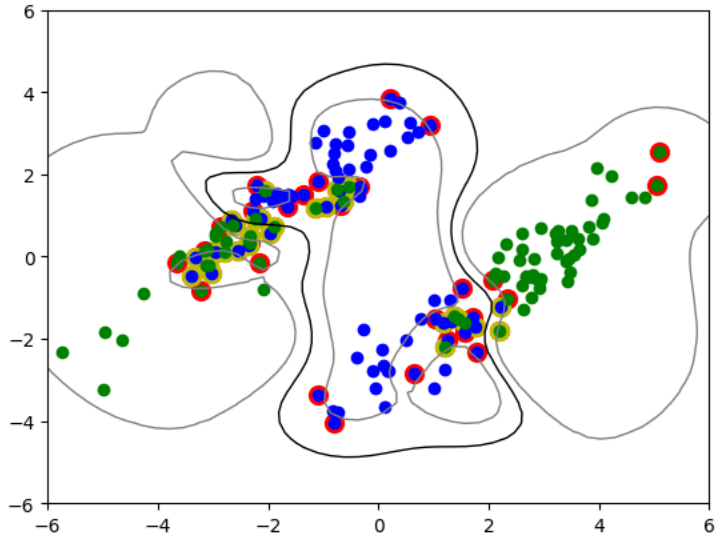
Gaussian kernel, C=100, σ=1, USV=28, BSV=33



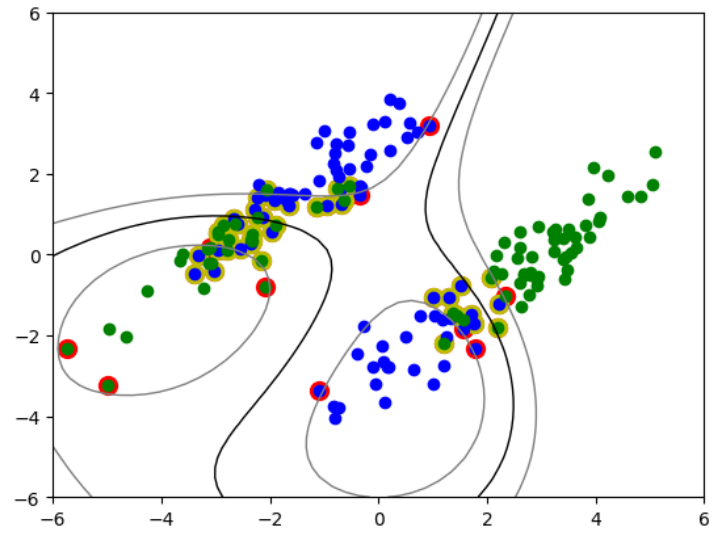
Gaussian kernel, C=100, σ=5, USV=9, BSV=47



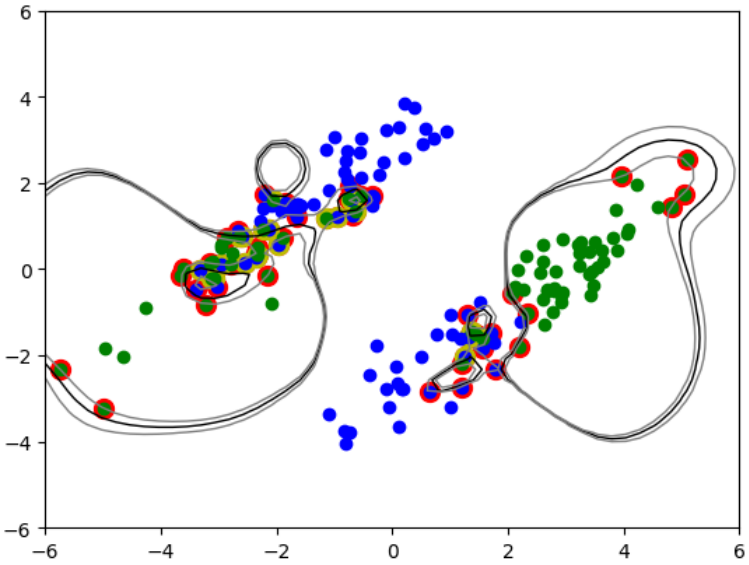
Gaussian kernel, C=1000, σ=1, USV=35, BSV=27



Gaussian kernel, C=1000, σ=5, USV=11, BSV=46



Gaussian kernel, C=10000, σ=1, USV=38, BSV=21



Gaussian kernel, C=10000, σ=5, USV=12, BSV=44