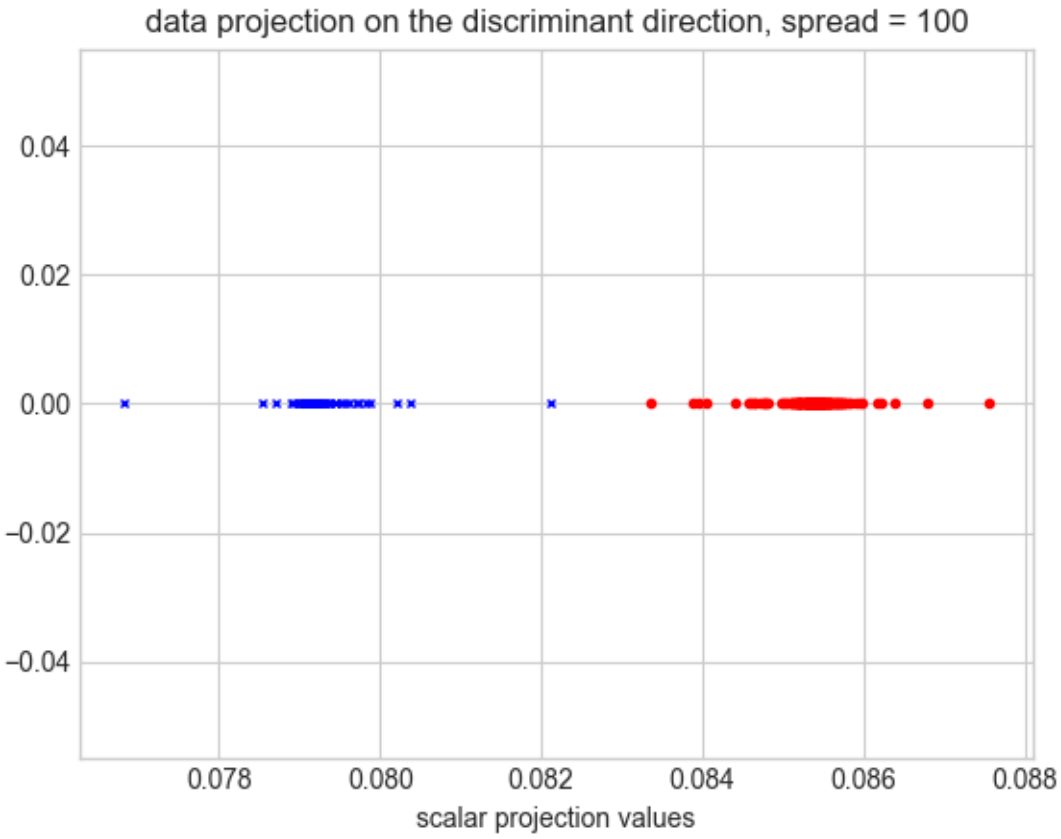
data projection on the discriminant direction, spread = 100
0.04
0.02
0.00
−0.02
−0.04
0.078
0.080
0.082
0.084
0.086
0.088
scalar projection values

```
Spread val 0.01 - first eigenvalue: 9.899057822875981e-18

Spread val 0.1 - first eigenvalue: 2.151672279171395e-06

Spread val 1 - first eigenvalue: 0.0002549321135162246

Spread val 10 - first eigenvalue: 0.5606618425984083

Spread val 100 - first eigenvalue: 0.7740240825862877

Spread val 1000 - first eigenvalue: 0.06675529638295566

vector a:
[[ 9.585e-02 -5.008e-02  6.915e-02  7.028e-02  2.173e-02 -4.466e-02
   5.672e-02  1.844e-02 -8.294e-03  2.417e-02  5.698e-02  3.562e-02
   2.573e-02  3.346e-02  7.323e-02  4.419e-02 -3.478e-02  5.183e-02
   1.351e-02  2.674e-02  6.567e-02  4.010e-02  5.012e-02  1.800e-02
  -3.267e-03  5.438e-02  4.370e-02  4.733e-02  1.037e-02 -3.571e-02
  -3.520e-02 -9.573e-02  8.225e-02 -1.381e-02  3.124e-02  6.518e-02
  -2.661e-02  3.123e-02 -1.450e-02  1.060e-02  1.196e-02 -4.642e-02
   4.629e-02  1.651e-01 -1.176e-01  3.638e-03  7.708e-03  3.011e-02
  -7.842e-02  8.853e-02 -3.274e-02 -1.590e-02  8.387e-02 -4.059e-02
   3.405e-01 -3.602e-01  2.849e-01 -2.257e-01  2.167e-01 -3.450e-01
   5.078e-02  6.911e-02  3.829e-01 -1.619e-01 -9.454e-02 -1.552e-02
  -7.054e-02  1.001e-01  4.019e-02  2.747e-01 -3.348e-02 -5.237e-01
   5.989e-01 -5.738e-01 -1.727e-01  3.781e-01 -3.924e-01  2.246e-01
   1.542e-01  6.984e-03 -1.756e-02  5.200e-02  6.751e-03  1.951e-02
  -6.668e-03  2.745e-02  3.022e-02  8.833e-03 -4.137e-02  3.149e-03
   3.082e-02  3.869e-02 -1.027e-02  2.438e-02  9.016e-02 -1.894e-01
   5.019e-01 -5.814e-01 -3.090e-02 -1.356e-01  7.065e-02  4.366e-01
  -2.642e-01  3.875e-03 -4.613e-03  2.704e-02  4.139e-02 -2.899e-01
   4.873e-02  3.485e-01  4.937e-02 -1.279e-01  6.238e-02 -3.552e-02
   3.821e-02  3.337e-02  7.956e-02 -6.847e-02 -1.402e-01 -8.353e-02
   4.096e-02 -5.472e+00  7.104e+00 -4.431e-02  9.601e-03 -1.944e+00
   5.563e-01  2.957e-01 -1.699e-02 -4.582e-01 -1.037e-01 -7.699e-01
   6.717e-01  5.384e-01 -9.416e-02  1.620e-01 -4.889e-01  3.691e-01
   7.319e-02  1.822e-03 -1.228e-01  9.251e-02 -6.156e-02  1.219e-01
   1.855e-02  1.630e-03  2.920e-02  1.954e-02  5.318e-02  2.603e-03
```

The entire ***a*** vector can be found in out.txt