svm: w, b

[-0.0679908, 1.38256, 0.171089]

0.07193331191948528

in train\_svm, about to call classify\_examples

1000

in classify\_examples\_svm

length(features)

1000

length(raw\_result)

1000

length(best\_indices)

517

non\_minority\_p\_num

259

minority\_p\_num

258

TSVM:

w, b after swapping

[-0.131575, 2.28485, 0.350566]0.05615000837405448

non\_minority\_p\_num

253

minority\_p\_num

259

TSVM-fair1

w, b in while loop for one time

[-0.144398, 2.41731, 0.289712]0.10907431089386442

non\_minority\_p\_num

255

minority\_p\_num

257

With fairness taken into consideration, how indices are selected:

function find\_problems\_fair1(test\_features::Vector{Vector{AbstractFloat}},

predictions::Vector{Int64}, xi\_star::Vector{Float64}, swapped\_dict)

index1 = -1

index2 = -1

found\_problem = false

for i in 1:(length(predictions)-1)

for j in (i+1):length(predictions)

if ((test\_features[i][1]==1) && (test\_features[j][1]!=1) && (predictions[i]>0) && (predictions[j]<0)) ||

((test\_features[i][1]!=-1) && (test\_features[j][1]==-1) && (predictions[i]>0) && (predictions[j]<0))

if ((xi\_star[i] > 0) &&

(xi\_star[j] > 0) && (xi\_star[i] + xi\_star[j] > 2)) &&

(get(swapped\_dict, (i,j), 0) < 10)

swapped\_dict[(i,j)] = get(swapped\_dict, (i,j), 0) + 1

index1 = i

index2 = j

found\_problem = true

end

end

end

if found\_problem

break

end

end

return (index1, index2)

end