

Figure 8. Distribution of score for male and female about a9a dataset by optimizing the classification accuracy subject to partial demographic parity. The interval  $\mathcal{I}$  is [0%, 40%].

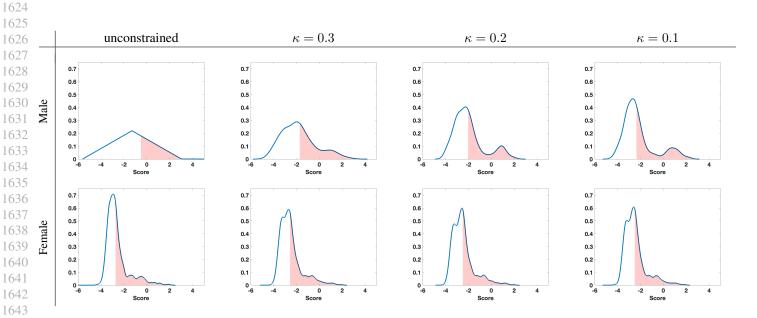


Figure 9. Distribution of score for male and female about bank dataset by optimizing the classification accuracy subject to partial demographic parity. The interval  $\mathcal{I}$  is [0%, 40%].

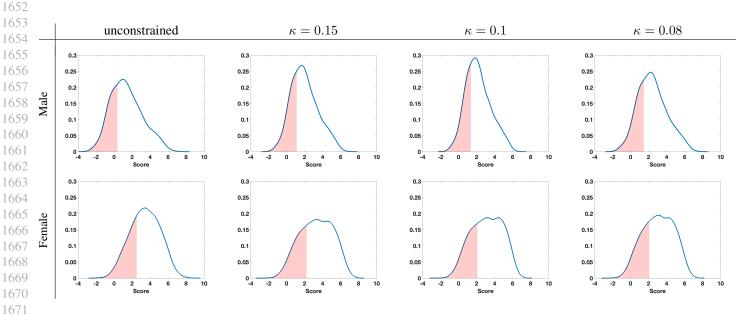


Figure 10. Distribution of score for male and female about law school dataset by optimizing the classification accuracy subject to partial demographic parity. The interval  $\mathcal{I}$  is [70%, 100%].

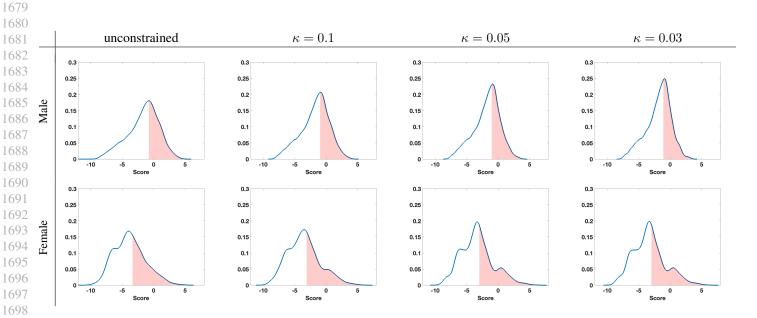


Figure 11. Distribution of score for male and female about a9a dataset by optimizing the classification accuracy subject to weak partial demographic parity. The interval  $\mathcal{I}$  is [0%, 40%].

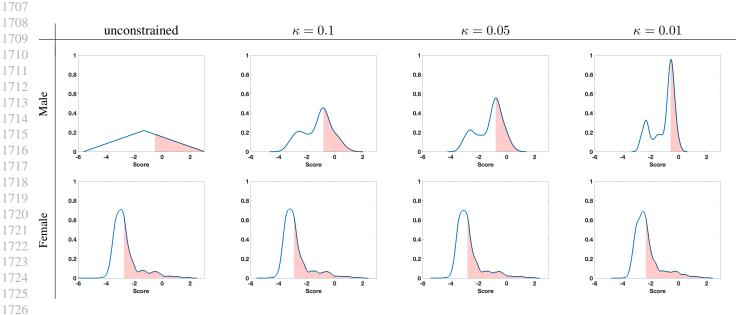


Figure 12. Distribution of score for male and female about bank dataset by optimizing the classification accuracy subject to weak partial demographic parity. The interval  $\mathcal{I}$  is [0%, 40%].

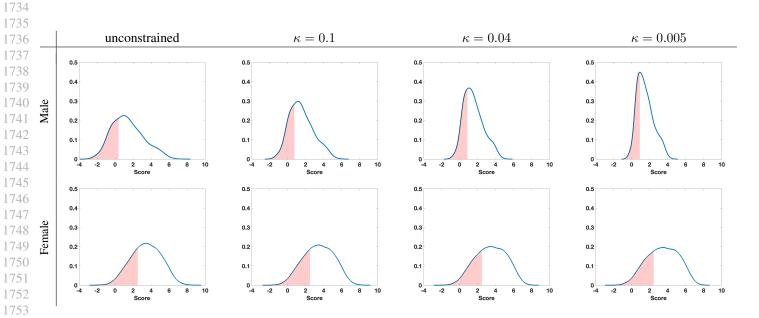


Figure 13. Distribution of score for male and female about law school dataset by optimizing the classification accuracy subject to weak partial demographic parity. The interval  $\mathcal{I}$  is [70%, 100%].