

Assignment 4

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Objective

This assignment is based on unit 7, 8, and 9. We have learned the mathematical background of gradient descent, linear regression, and logistic regression. The assignment will help you to further bolster your grasp on these topics.

Problems

1. Implement your own logistic regression and classify the iris data into setosa or non-setosa. You are supposed to write your own logit function and implement gradient descent to learn optimal weights. Then using this weight classify the entire data set as setosa or non-setosa. We encourage you not to use logistic regression implementation of scikit learn package. (If you are facing too much difficulty during implementation you can use packages no marks will be deducted for that. However, please try your best to avoid using packages.) Report how much accuracy you got. You can try your logistic regression code on some other dataset as well for binary classification.
2. You are familiar with the matrix notation and linear algebra. Using the mathematical procedure (discussed on unit, 9) of feature selection implement your own feature selection algorithm to select 5 best features of OnlineNewsPopularity data set.