CSE574

Programming Assignment #3

Classification and Regression

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Group #32

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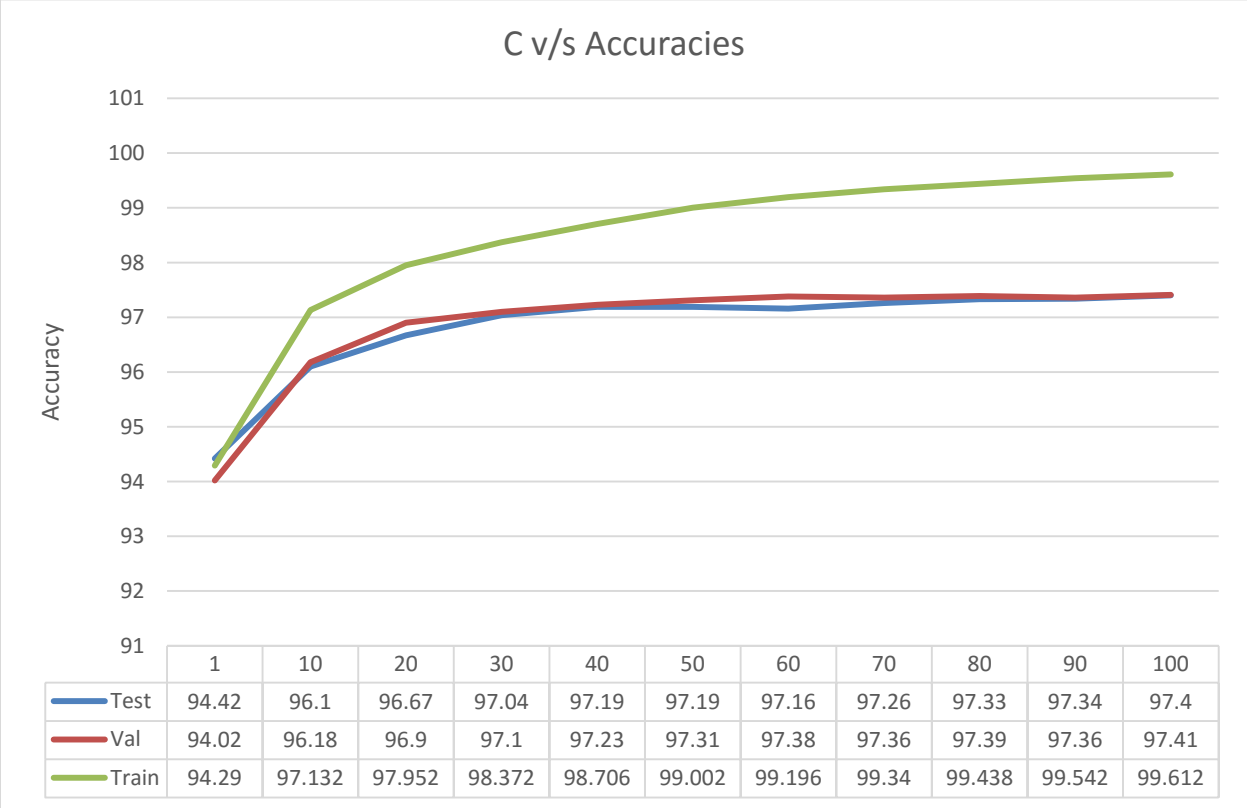
1. Logistic Regression
    - Training accuracy: 85.43
    - Validation accuracy: 85.47
    - Testing accuracy: 86.254

2. SVM using Toolbox:
    a) Using linear kernel (all other parameters are kept default)
        - Training accuracy: 97.286
        - Validation accuracy: 93.64
        - Testing accuracy: 93.78

    b) Using radial basis function with value of gamma setting to 1 (all other parameters are kept default).
        - Training accuracy: 100.0
        - Validation accuracy: 15.48
        - Testing accuracy: 17.14

    c) Using radial basis function with value of gamma setting to default (all other parameters are kept default).
        - Training accuracy: 94.294
        - Validation accuracy: 94.02
        - Testing accuracy: 94.42

d) Using radial basis function with value of gamma setting to default and varying value of C (1, 10, 20, 30, 40, 50, 60, 70, 80, 90, and 100).



	1	10	20	30	40	50	60	70	80	90	100
Test	94.42	96.1	96.67	97.04	97.19	97.19	97.16	97.26	97.33	97.34	97.4
Val	94.02	96.18	96.9	97.1	97.23	97.31	97.38	97.36	97.39	97.36	97.41
Train	94.29	97.132	97.952	98.372	98.706	99.002	99.196	99.34	99.438	99.542	99.612

3. Direct Multi-class Logistic Regression
    - Training accuracy: 92.67
    - Validation accuracy: 92.43
    - Testing accuracy: 93.39

Submissions:

a) script.py
b) report.pdf
c) weights1 (pickle file) – Learned weights (W) of Logistic Regression
d) weights2 (pickle file) – Learned weights (W_b) of Bonus part