**Assignment-3**

**Genomic Sequence Analysis**

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1. **Classification with Linear SVM:**

Cost Regularization Function Accuracy

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1.5 |  |  |  |  | |  |  | | 94.85 |
| 1.6 |  |  |  |  | |  |  | | 94.95 |
| 1.7 |  |  |  |  | |  |  | | 94.95 |
| 1.8 |  |  |  |  | |  |  | | 95.05 |
| 1.9 |  |  |  |  | |  |  | | 94.95 |
| 2 |  |  |  |  | |  |  | | 95.05 |
| 2.1 |  |  |  |  |  | | |  | 95.1 |
| 2.2 |  |  |  |  | |  |  | | 95 |
| 2.3 |  |  |  |  | |  |  | | 95.15 |
| 2.4 |  |  |  |  | |  |  | | 95.2 |
| 2.5 |  |  |  |  | |  |  | | 95.2 |
| 2.6 |  |  |  |  | |  |  | | 95.1 |
| 2.7 |  |  |  |  | |  |  | | 95.1 |
| 2.8 |  |  |  |  | |  |  | | 95.25 |
| 2.9 |  |  |  |  | |  |  | | 95.2 |
| 3 |  |  |  |  | |  |  | | 95.2 |
| 3.1 |  |  |  |  | |  |  | | 95.05 |
| 3.2 |  |  |  |  | |  |  | | 95.1 |
| 3.3 |  |  |  |  | |  |  | | 95.05 |
| 3.4 |  |  |  |  | |  |  | | 95.1 |
| 3.5 |  |  |  |  | |  |  | | 95 |

**Plot of Accuracy vs Cost Regularization Parameter:**

1. Classification using Gaussian (RBF) Kernel SVM

Accuracy Matrix with different c and s :

