

## Assignment 3

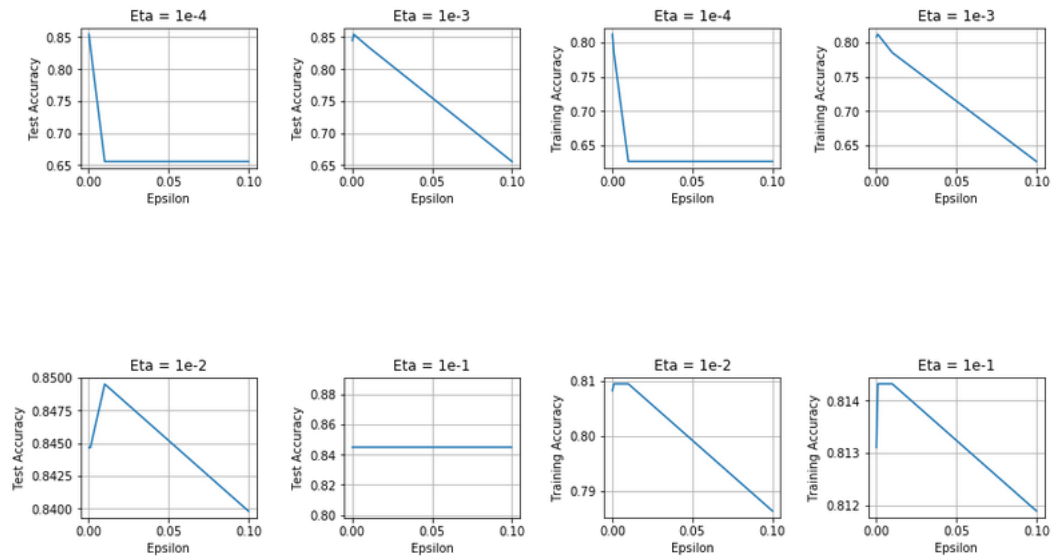
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### PART 1: Logistic Regression with SGA:

Weight Vector	$[-1.95 \ 5.314 \ 2.215 \ 1.066 \ -4.574 \ 2.056 \ -0.309 \ -1.617 \ 8.307]$
Training Accuracy (824x8)	81.19%
Test Accuracy (206x8)	85.43%
Eta (Step Size)	$1e-4$
Epsilon (Error threshold)	$1e-4$
Epochs	22077

### Tuning EPS and ETA for LR:

Tuning on Training Data



## **PART 2: Kernel Ridge Regression:**

For Linear Kernel

Training Accuracy	78.52%
Test Accuracy	83.98%

For Inhomogeneous Quadratic Kernel

C	1
Training Accuracy	87.02%
Test Accuracy	91.75%

For Gaussian Kernel

Sigma	1
Training Accuracy	91.74%
Test Accuracy	95.14%

Sigma Spread range `np.linspace(1,10,37) = [1 1.25 1.50 1.75 2 2.25 2.50 2.75 .... 9.50 9.75 10.0]`

