

## 5.2.1

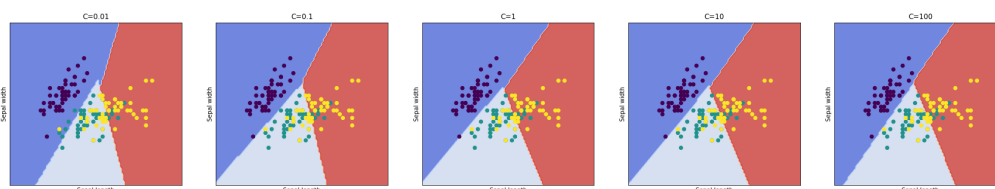
1. Accuracy Score obtained on Unregularized Logistic Regression on  $\phi(x)=x$  is 0.6052631578947368
2. Accuracy Score obtained on Unregularized Logistic Regression on  $\phi(x)=[1 \ x \ x^2]$  is 0.6052631578947368
3. Accuracy Score obtained on Logistic Regression on  $\phi(x)=x$  is [0.6052631578947368, 0.6052631578947368, 0.6052631578947368, 0.6052631578947368, 0.6052631578947368] where tuned hyper-parameters is/are  $C = [0.01, 0.1, 1.0, 10.0, 100.0]$
4. Accuracy Score obtained on Logistic Regression on  $\phi(x)=[1 \ x \ x^2]$  is [0.6052631578947368, 0.6052631578947368, 0.6052631578947368, 0.6052631578947368, 0.6052631578947368] where tuned hyper-parameters is/are  $C = [0.01, 0.1, 1.0, 10.0, 100.0]$
5. Accuracy Score obtained on SVC on  $\phi(x)=x$  is [0.6052631578947368, 0.6052631578947368, 0.6052631578947368, 0.6052631578947368, 0.6052631578947368] where tuned hyper-parameters is/are  $C = [0.01, 0.1, 1.0, 10.0, 100.0]$
6. Accuracy Score obtained on SVC on  $\phi(x)=[1 \ x \ x^2]$  is [0.6052631578947368, 0.6052631578947368, 0.6052631578947368, 0.6052631578947368, 0.6052631578947368] where tuned hyper-parameters is/are  $C = [0.01, 0.1, 1.0, 10.0, 100.0]$

## 5.2.2

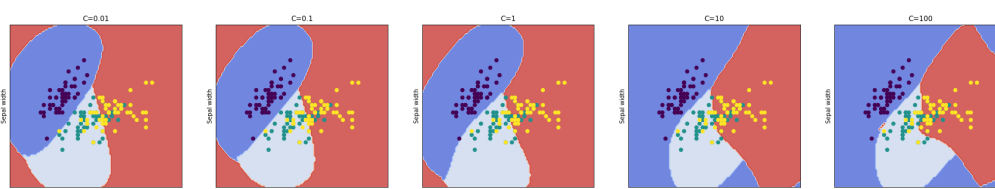
1. Explained Variance obtained on Unregularized Linear Regression on  $\phi(x)=x$  is 0.4680921337533164
2. Explained Variance obtained on Unregularized Linear Regression on  $\phi(x)=[1 \ x \ x^2]$  is 0.467422613142056
3. Explained Variance obtained on Ridge Regression on  $\phi(x)=x$  is 0.4965573078166551 where tuned hyper-parameter is  $C = 0.01$
4. Explained Variance obtained on Ridge Regression on  $\phi(x)=[1 \ x \ x^2]$  is 0.4911334718075051 where tuned hyper-parameter is  $C = 0.01$
5. Explained Variance obtained on SVR on  $\phi(x)=x$  is 0.5831334157217087 where tuned hyper-parameter is  $C = 100.0$
6. Explained Variance obtained on SVR on  $\phi(x)=[1 \ x \ x^2]$  is 0.3841478822250217 where tuned hyper-parameter is  $C = 100.0$

## 5.3.1

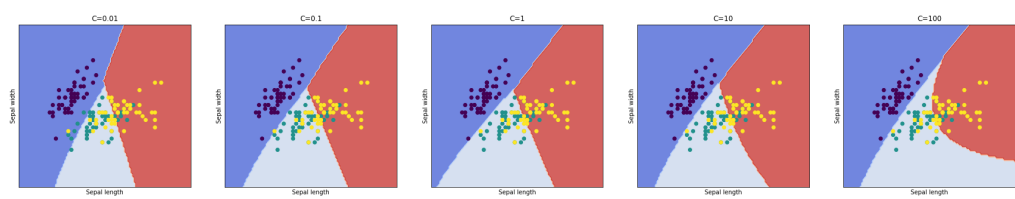
### Linear Kernel



### Gaussian Kernel



# Polynomial Kernel with 2nd Degree



# Polynomial Kernel with 3rd Degree

