!pip install mglearn

import mglearn

import numpy as np

import matplotlib.pyplot as plt

from sklearn import svm

# Assuming you've already imported X and y

# Create some sample data (replace this with your actual data)

X, y = mglearn.datasets.make\_forge()

# Create a linear SVM classifier

linear\_svm = svm.LinearSVC()

# Train your classifier

linear\_svm.fit(X, y)

# Plot the classification

mglearn.plots.plot\_2d\_classification(linear\_svm, X, fill=True, alpha=.7)

mglearn.discrete\_scatter(X[:,0], X[:,1], y)

# Plot the decision boundaries

line = np.linspace(-15, 15)

for coef, intercept, color in zip(linear\_svm.coef\_, linear\_svm.intercept\_, mglearn.cm3.colors):

plt.plot(line, -(line \* coef[0] + intercept) / coef[1], c=color)

# Add legend and labels

plt.legend(['Class 0', 'Class 1', 'Line class 0', 'Line class 1'], loc=(1.01, 0.3))

plt.xlabel("Feature 0")

plt.ylabel("Feature 1")

plt.show()

