In [1]:
```
import os
import cv2
import numpy as np
from sklearn.model_selection import train_test_split
from sklearn.svm import SVC
from sklearn.metrics import accuracy_score
```

In [43]:
```
data = []
labels = []

DATADIR = "C:/Users/gagan/Downloads/archive (1)/Animal Image Dataset-Cats, Dogs, and Foxes"   # path to kaggle cats vs dogs datas
CATEGORIES = ["C:/Users/gagan/Downloads/archive (1)/Animal Image Dataset-Cats, Dogs, and Foxes/cat", "C:/Users/gagan/Downloads/ar


IMG_SIZE = 64

for category in CATEGORIES:
    path = os.path.join(DATADIR, category)
    class_num = CATEGORIES.index(category)

    for img in os.listdir(path)[:1000]:  # take limited images to reduce time
        try:
            img_array = cv2.imread(os.path.join(path, img), cv2.IMREAD_GRAYSCALE)
            new_array = cv2.resize(img_array, (IMG_SIZE, IMG_SIZE))
            data.append(new_array.flatten())
            labels.append(class_num)
        except Exception as e:
            pass

X = np.array(data)
y = np.array(labels)
```

In [40]:
```
X_train, X_test, y_train, y_test = train_test_split(
    X, y, test_size=0.2, random_state=42
)
```

In [41]:
```
svm_model = SVC(kernel='linear', C=1.0)
svm_model.fit(X_train, y_train)
```

Out[41]:

SVC

SVC(kernel='linear')

In [42]:

```
y_pred = svm_model.predict(X_test)
acc = accuracy_score(y_test, y_pred)
print("SVM Accuracy on Cats vs Dogs:", acc)
```

```
SVM Accuracy on Cats vs Dogs: 0.7380952380952381
```

In [ ]: