

Devices Price Classification System using Python and Spring Boot

1-Python model:

These are the final results after tuning the model's hyperparameters using Grid Search:

SVM Performance Summary on Test Data

	SVM
Accuracy	97.99%
Macro Precision	97.98%
Macro Recall	97.99%
Macro F1-score	97.98%

Confusion Matrix for Test Data

True label \ Predicted label	0	1	2	3
0	106	0	0	0
1	1	87	1	0
2	0	2	103	2
3	0	0	2	95

When I got these results, I decided to save my model, so I did using pickle like the following:
(this will help later connecting to the model through apis)

```
import pickle

# Read samples
df_samples = pd.read_csv('test - test.csv')

# Remove id column
df_samples.drop('id', axis=1, inplace=True)

with open('model2.pkl','wb') as f:
    pickle.dump(svm_pipeline,f)

# load
with open('model2.pkl', 'rb') as f:
    m2 = pickle.load(f)

m2.predict(df_samples)
```

2-SpringBootProject:

First I have made the requested endpoints for my model using falsk, then I have connected them throw a simple springboot project

Falsk api can be found in “api”

Springboot can be found in “demo”

You can also test the model through flask api and see the results