

Data handling 1

State of the Art Datasets

GeoLife, Animals, Hurricanes, CMA
Typhoon, MNIST Stroke, UCI GoTrack,
UCI Pen Digits, UCI Characters, UCI
Movement Libras

Dataset operations

split, cut, take, filter, map

```
from pactus import Dataset  
dataset = Dataset.animals()
```

```
train, test = dataset.split(0.9)
```

Feature extraction 2

Trajectory vectorization methods

UniversalFeaturizer, TimeFeaturizer,
KineticFeaturizer, SpatialFeaturizer, ...

```
from pactus import featurizers  
ft = featurizers.UniversalFeaturizer()
```

Classification models 3

State of the Art Models

Random Forest, SVM, KNN,
Decision Tree, LSTM,
Transformer

```
from pactus.models import RandomForestModel  
model = RandomForestModel(featurizer=ft)  
model.train(train, cross_validation=5)
```

Evaluation 4

Classification Metrics

Confusion Matrix, Mean Accuracy,
Mean Recall, F1 Score

```
evaluation = model.evaluate(test)  
evaluation.show()
```