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

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

Dataset operations
split, cut, take, filter, map

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

Feature extraction 2

Trajectory vectorization methods
UniversalFeaturizer, TimeFeaturizer, KineticFeaturizer, SpatialFeaturizer, ...

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

Clasification models 3

State of the Art Models
Random Forest, SVM, KNN, Decision Tree, LSTM, Transformer

```
from pactus.models import KNN
model = KNN(featurizer=ft, n_neighbors=7)
model.train(train, cross_validation=5)
```

Evaluation 4

Classification Metrics
Confusion Matrix, Mean Accuracy, Mean Recall, F1 Score

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