Support Vector Machines
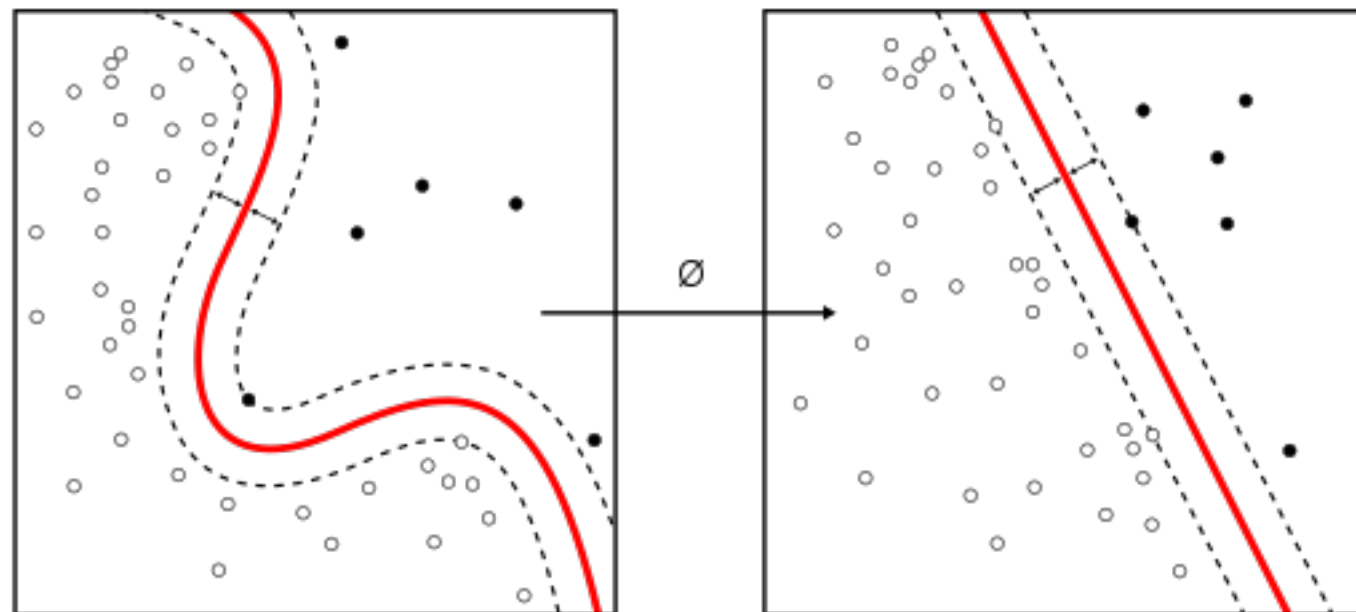
Wiki

Advantages

- Simpler to understand, transparent model
- Tweaking tangible parameters to get output
- Methods exists to auto tune on needed parameters for purpose
- Widely used

Kernel

- Kernel type – RBF, [Polynomial](#)...
- Kernel trick – Matrix vectors(vectorization) with GPU(or some special hardware like CUDA) supporting operations at microprocessor level.

THE CODE

Clone it from

- Mushroom dataset
- Credit Card Fraud Dataset
- Visualizations

5Ws1H

- Mobile users generate more data than ever
- Image processing - Satellites, Google Maps, Detect hostile targets
- Countries with lower populations use SVMs to reduce manual labor
- Anomaly detection - Credit card fraud detection, classification, regression.

Baseline accuracy

- Dummy classifiers/ regressors
- Normalize its performance based on bias in Dataset

Tuning – Confusion Matrix

- Precision - Test for Disease - Reduce False Positives
- Accuracy - Catch criminals - Reduce FP and FN
- Recall - Manufacturing line defect – Reduce False Negatives
- F1
- ROC_AUC - Receiver Operating Characteristic Area Under Curve
- And many more in docs

Thank you.