Muzaffer Estelik

Cardiac Arrhythmia

Aug 6th, 2018

Personal Background

- BS degree on Electronics Engineering
- MA degree on Leadership and Management
- 16 years of experience on management and analysis
- Additional background on international relations and public affairs
- Valuable experience on logistics and personnel management
- Numerous presentations before various VIP audience

Cardiac Arrhythmia

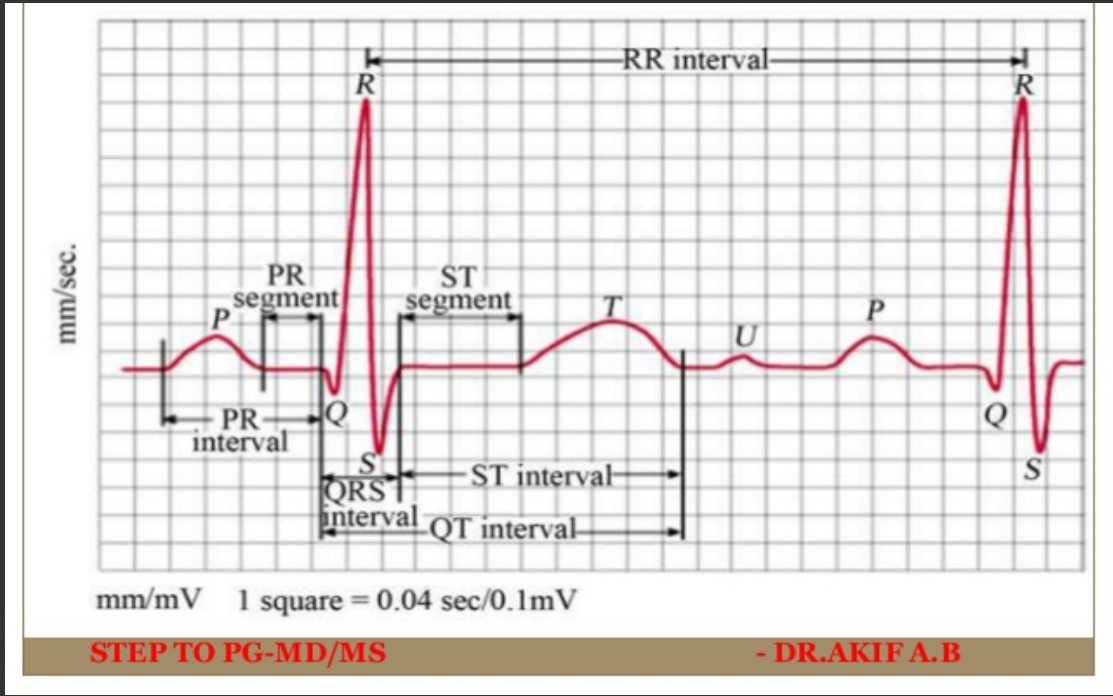
April 04th, 2018 Cohort

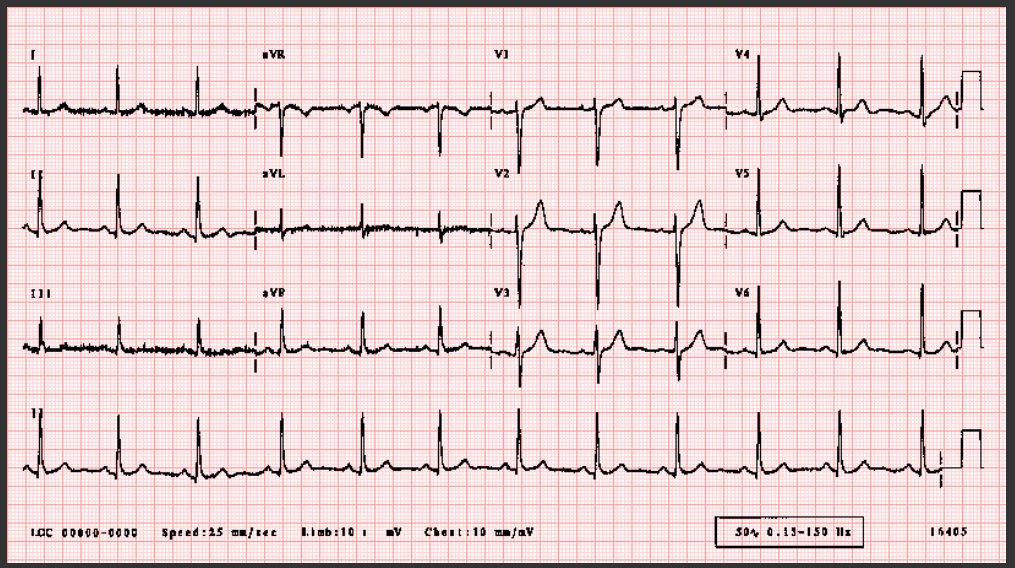
Data Science Career Track Capstone Project

Problem Introduction

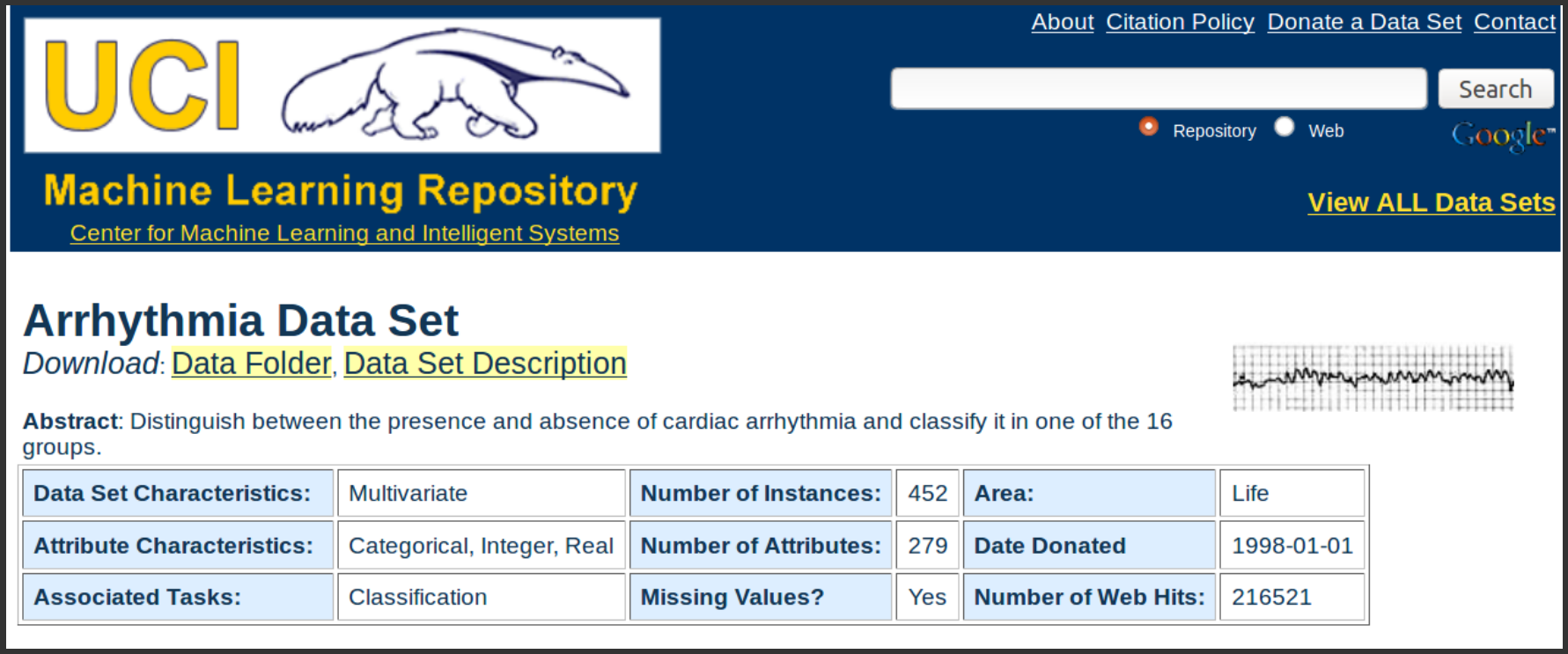
..famous about giving bad news..

Problem Introduction





Data Set

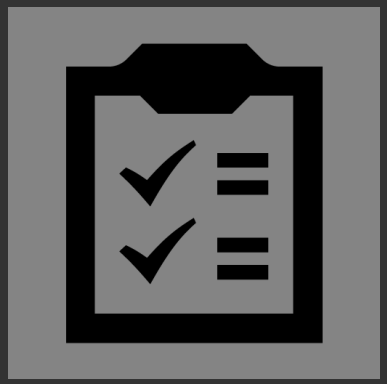


https://archive.ics.uci.edu/ml/datasets/Arrhythmia

labeled with **16** different classes

1	normal ECG with no arrhythmia	245
2 .. 15	different types of arrhythmia	185
16	unclassified	22

Data Wrangling / EDA / ML



Project guidelines of David Yakobovitch

* Choosed **"WEIGHTED RECALL"** as evaluation strategy due to importance of our predictions (maximum TP).

* Bagging and boosting methods generally raised the average training accuracy for the models but the test accuracy got reduced.

* PCA provided better results.

Thank you!

Muzaffer Estelik

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Github : https://github.com/MuzafferEstelik

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	Train Recall Score	Test Recall Score
KNN Clasification	0.669271	0.647059
Logistic Regression	0.841146	0.676471
Linear SVM	0.783854	0.720588
Kernelized SVM	0.976562	0.676471
Naive Bayes	0.760417	0.632353
Decision Tree	0.750000	0.661765
Random Forest	0.940104	0.750000
KNN Classification with PCA	0.677083	0.647059
Logistic Regression with PCA	0.825521	0.676471
Linear SVM with PCA	0.776042	0.735294
Kernalised SVM with PCA	0.968750	0.676471
Decision Trees with PCA	0.674479	0.573529
Random Forest with PCA	0.966146	0.632353