Faculty of Science – Alexandria University
Department: Mathematics and Computer Science
Course Title: Intelligent Machines 040103309

- **Team Members**

Names (Arabic)	IDs
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- **Dataset Description** (You can download datasets from Kaggle, UCI datasets, Google Datasets)

Dataset download link	https://archive.ics.uci.edu/ml/datasets/HTRU2
Number of samples	17898
Number of classes	2
Number of samples per class	{0: 16259, 1: 1639}
Names of classes	[0, 1]
Dimensionality	8
Names of features	[Profile_mean, Profile_stdev, Profile_skewness, Profile_kurtosis, DM_mean, DM_stdev, DM_skewness, DM_kurtosis]

- **Results** (Apply all of the following classifiers on your datasets. Don't forget to use train_test_split function)

Classifier name	Parameters used	Accuracy score
Support Vector Machine	SVC(kernel='linear')	0.983240223464
Naïve Bayes	GaussianNB()	0.946145251397
Decision Tree	DecisionTreeClassifier(random_state=4)	0.967374301675
Neural Networks with at least 1 hidden layer	MLPClassifier(hidden_layer_sizes=(20,15,10,5))	0.983016759776

- **Which algorithm is the most suitable for your dataset?**

   Answer: Support Vector Machine

- **Python code + Printed report:** 10 Marks.
- **Bonus:** GUI that contains buttons for showing data, selecting each algorithm, and viewing results.
- **Discussion duration:** 15 minutes per team.
- **Discussion dates:**
  - ✓ Sunday, Dec 15, 2019 (1 PM:4 PM) – Lab C
  - ✓ Wednesday, Dec 18, 2019 (10 AM:2 PM) – Lab D
  - ✓ Thursday, Dec 19, 2019 (3 PM:6 PM) – Lab D
- **Note that:** All team members must attend during discussion and no late projects are accepted.