L'excellence à la portée de tous !
Un ministère de Calvary Chapel-Port-au-Prince
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Syllabus

Course Title	MACHINE LEARNING

I. Course Objectives

The objective of this course is to introduce the concepts of Machine Learning using the Python programming language.

II. Prerequisites

- A Python programming course, or Java II or C#, and Introduction to Statistics.

III. Materials and Books

The textbooks are in PDF format, along with references to websites that will be made available to students on the first day of class.

IV. Course Content

- Statistics and Probability:
  o Survey – Variable – Data Collection – Frequency Histogram – Measures of Central Tendency: Mode – Median – Mean – Quartiles – Variance and Standard Deviation – Gaussian Distribution (Normal Curve) – Regression.
- Python: Revision
  o Start your project with Python: Link to YouTube Video
- Basic Theory of Machine Learning
  o Data – Task to Accomplish – Learning Algorithm – Performance Measure
  o Decision Trees
  o K-Nearest Neighbors
  o Ensemble Models: Random Forest – AdaBoost – Gradient Tree Boosting
  o Gaussian Models
  o Support Vector Machines
  o Support Vector Classifiers (Linear and Kernel-based)
  o Support Vector Regressors
  o Naive Bayes
  o Clustering Models: K-Means
- Practical Work
  o Use of Jupyter Notebook and Google TensorFlow
  o Group projects.
  o If time permits: Hugging Face Course

V. Course Regulations:

The student must always be present, except in cases where the administration has studied the issue, and the justification is accepted by the administration of the university. A student who leaves the classroom before the end of the class is considered absent, unless the departure is approved by the professor due to a valid reason. Assignments must be submitted on the date set by the professor. Any assignments that are not submitted or incomplete will receive a score of 0.

The final grade is a combination of:
1. Homework and Project 30%
2. Tests 70%