Pearson Institute
of Higher Education

Short Course

Machine Learning with Python

Programme duration

128 hours
Option of weekend or evening classes

Qualification description

The value of Data Scientists rests on their ability to describe the world and to make predictions. Machine Learning is the field of teaching machines and computers to learn from existing data to make predictions on new data. Thus, the aim of this module is to equip learners with the fundamental and technical concepts as well as the applicable skill set in Machine Learning in order to make them become experts in prediction, pattern recognition, and the beginnings of deep learning.

You will learn how to use Python to perform supervised learning, an essential component of Machine Learning. You will learn how to build predictive models, how to tune their parameters and how to tell how well they will perform on unseen data, all the while using real world datasets. You will do so using scikit-learn, one of the most popular and user-friendly machine learning libraries for Python

You will learn the fundamentals of unsupervised learning and implement the essential algorithms using scikit-learn and scipy. You will learn how to cluster, transform, visualise, and extract insights from unlabeled datasets, and end the module by building a recommender system You will learn all about using linear classifiers, specifically logistic regression and support vector machines, with scikit-learn. You will dive into the ideas behind them and find out what really makes them tick. You will know how to train, test, and tune these linear classifiers in Python. You will also have a conceptual foundation for understanding many other machine-learning algorithms.

You will complete these technical projects “challenging problems” using your learnt machine learning techniques.

- School Budget: to build a model to automatically classify items in a school budget
- Machine Learning for Finance in Python
- Fraud Detection in Python
- Supply Chain Analytics in Python

Deep learning is the machine learning technique behind the most exciting capabilities in diverse areas like robotics, natural language processing, image recognition and artificial intelligence (including the famous AlphaGo). Students will gain hands-on, practical knowledge of how to use deep learning with Keras 2.0, the latest version of a cutting-edge library for deep learning in Python.