Introduction to machine and statistical learning 801 (MIT 801)

Qualification	Postgraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	15.00
Programmes	MIT
	MIT Big Data Science
Prerequisites	First year level higher education modules in Computer Science, Mathematics and Statistics.
Contact time	16 contact hours per semester
Language of tuition	Module is presented in English
Department	School of Information Technology
Period of presentation	Semester 1

Module content

In this module students will be exposed to different categories of machine and statistical learning algorithms that can be used to manipulate big data, identify trends from the data, modelling trends for prediction purposes as well as modelling for the detection of hidden knowledge. Students will be exposed to various machine and statistical learning algorithms/methods and they will learn how to make the right choice with regard to these. Learning, in a supervised and unsupervised mode will be covered. Furthermore students will develop a practical understanding of methods that can aid the learning process, such as, new developments in regression and classification, probabilistic graphical models, numerical Bayesian and Monte Carlo methods, neural networks, decision trees, deep learning and other computational methods. This module also includes a visualisation component focusing on the encoding of information, such as patterns, into visual objects.