

SPRING 2016
SPECIAL TOPICS TO CONSIDER
MA755

MA755: Machine Learning

Pre-requisite(s): MA 710 or MA 799 Data Science or Instructor Approval

Also requires the assumption of working familiarity with R/Python and willingness to understand the mathematics involved with the algorithms used.

Notes: This course may be used as an elective in the MSBA or an application elective in the Graduate Certificate in Business Analytics or Business Analytics Concentration in the MBA. It may also be used as an MBA unrestricted elective or an outside elective for certain MS degree programs.

Course Description: In the course we further investigate the topics of learning from and predicting with data as introduced in MA710 and MA799. The course starts with the topics of regularization and dimensionality reduction (linear discriminant analysis and principal component analysis) which are methods to reduce feature space complexity. We will cover a selection from the following topics as time permits: support vector machines, neural networks, Bayesian methods, genetic algorithms, spectral clustering and self-organizing maps. In addition, we will learn to use distributed data mining techniques on very large datasets. The course will assume a working familiarity with either of the R or Python languages and a higher level of mathematical maturity than required in the prerequisites.

Course Instructor: Dr. David Oury

Professor Oury worked in two internet startups in the early 90's and as a research consultant in the later 90's developing recommendation and pricing engines. He obtained a MS from McGill in Canada and a PhD from Macquarie University in Australia in Category Theory, a branch of abstract mathematics, in the 00's. His current work focuses on big data, distributed computing, data science, data mining and machine learning.