MACHINE LEARNING APPLIED TO SUPERVISION

28 and 30 October, 4, 6 and 7 November 2024

Description

Machine Learning (ML) is a step forward in the application and development of traditional statistical techniques. The fact that this "revolution" has arisen precisely now comes as no surprise: the computing power of a simple laptop has grown exponentially in just a few years, while the large-scale use of terminals connected to the internet allows vast volumes of data to be compiled.

Before this computation revolution, access to advanced statistical knowledge was reserved to mathematical profiles. Nowadays, the development of specific software designed for the public at large allows professionals not specialised in complex mathematical calculations to use these tools to solve problems in their industry.

Aim and content

In this course, which has an eminently practical and applied approach, we will explore the use of the most popular ML tools, using the statistical programming language R. Specifically:

- Decision trees: individual, bagging, random forest and boosting
- Neural networks, or deep learning
- Text mining, or natural language processing
- Unsupervised learning: clusters and dimensionality reduction

The course comprises a series of videos and self-study materials and six online sessions.

Machines will have to have the "R" software installed for the practical exercises. "R" is open software, and internal authorisation by each supervisor will probably be needed for its installation.

Professional profile of attendees

Two different employee profiles are eligible for this course:

- Managers with leadership functions over a group of inspectors or heads of supervision divisions or departments. No previous knowledge of statistics or the use of models for calculating provisions or capital are required, but some years of experience in supervisory tasks are. This course will help to expand horizons, showing the potential uses of advanced statistical techniques, commonly integrated into what is known as artificial intelligence, in the field of financial supervision. Such knowledge may help in decision-making when providing training to teams about statistical and data handling techniques, with the aim of applying such knowledge in the supervisory sphere.

- Operating inspectors, who would subsequently apply the knowledge acquired. Persons with previous knowledge in R, Python or similar applications, who are interested in learning more about them. No in-depth knowledge of any of these programmes is required, but participants should have worked with and have some idea of them.

Organisation, duration and format

The course is organised jointly by the Banco de España and ASBA. It will be held online, in English, and will be run by Banco de España expert trainers.

It will be held online, over five days, in three-hour morning sessions, Mexico time.

Participation is by invitation only from ASBA.

Waterfall (1988)
Edgar Negret
Bronze