General information

An intensive set of courses providing attendees with an introduction to the theoretical foundations as well as the practical applications of some of the modern statistical analysis techniques and machine learning methods currently in use.

12 courses of 15 h each are offered during 2 weeks.

Each course has theoretical and practical classes with a computer programme.

Students are free to choose the courses according to their interests, i.e., no restrictions besides those imposed by timetables, apply on the number or choice of courses.

Registration

40 people max per course.

Courses with less than 6 people will not be open.

<table>
<thead>
<tr>
<th>Price per course</th>
<th>Before June 7</th>
<th>After June 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academia</td>
<td>200 €</td>
<td>250 €</td>
</tr>
<tr>
<td>Industry</td>
<td>300 €</td>
<td>350 €</td>
</tr>
</tbody>
</table>

Tuition fees include attendance to lectures and educational materials.

Fees will be independent from the number of enrolments.

Application via email: asdm@fi.upm.es

A worldwide top 10 Maths & Stats summer school according to INOMICS:

https://blog.inomics.com/top-10-summer-schools-in-math-stats/

Organization

P. Larrañaga
Professor at UPM

C. Bielza
Professor at UPM

B. Mihaljević, L. Antón
PhD students

Computational Intelligence Group
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MADRID-UPM
Advanced Statistics and Data Mining
Summer School 2015

Madrid, June 29—July 10, 2015
This summer school complements the technical background of attendees in the field of data analysis and modelling.

Open to any student or professional seeking further knowledge about a field that is more and more involved in nearly all productive areas (Computer Science, Engineering, Pharmacy, Medicine, Economics, Statistics, etc.)

Also providing a set of computational tools to try the studied techniques on practical problems.

Teachers will make the course content accessible to students with all backgrounds.

### Programme

#### Week 1

**June 29 – July 3, 2015**

<table>
<thead>
<tr>
<th>Time</th>
<th>Courses</th>
</tr>
</thead>
</table>
| 09:45-12:45| - C01: Bayesian Networks  
- C02: Time Series |
| 13:45-16:45| - C03: Supervised Pattern Recognition  
- C04: Bayesian Inference |
| 17:00-20:00| - C05: Neural Networks and Deep Learning  
- C06: Unsupervised Pattern Recognition |

#### Week 2

**July 6-10, 2015**

<table>
<thead>
<tr>
<th>Time</th>
<th>Courses</th>
</tr>
</thead>
</table>
| 09:45-12:45| - C07: Statistical Inference  
- C08: Bayesian Classifiers |
| 13:45-16:45| - C09: Text Mining  
- C10: Feature Subset Selection |
| 17:00-20:00| - C11: Support Vector Machines and Convex Optimization  
- C12: Hidden Markov Models |

### Instructors

- **C01**: C. Bielza, P. Larrañaga, B. Mihaljević (UPM)
- **C02**: A. Justel (UAM), L. Cayuela (URJC)
- **C03**: P. Larrañaga, C. Bielza (UPM)
- **C04**: M. Wiper, C. Ausín (UC3M)
- **C05**: J. Dorronsoro, A. Barbero, A. Suárez (UAM)
- **C06**: A. Otero (CEU-San Pablo)
- **C07**: R. Mínguez (UCLM)
- **C08**: P. Larrañaga, C. Bielza, B. Mihaljević (UPM)
- **C09**: F. Leitner (UPM)
- **C10**: B. Mihaljević, P. Larrañaga, C. Bielza (UPM)
- **C11**: J. Dorronsoro, A. Barbero (UAM), C. Alaíz (UC3M)
- **C12**: A. Álvarez (UPM)