Data Mining II

DMA - Data mining: advanced topics and case studies
Instructors

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Contents

• Advanced/alternative data mining methods

• Sequential patterns

• Classification
  – KNN, Rule-based, SVM, etc.
  – Validation methods

• Time series

• Outlier/anomaly detection

• The data mining process at work (CRISP, etc.)
Contents

• Complex data types
  – Sequences
  – Time series

• Case studies in CRM
  – Churn analysis
  – Customer segmentation
  – Fraud detection
  – Cross-selling
  – Etc.
# Classes

## DM 2

### Classes - Lezioni

<table>
<thead>
<tr>
<th>Day of week</th>
<th>Hour</th>
<th>Room</th>
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<tbody>
<tr>
<td>Tuesday</td>
<td>16:00 - 18:00</td>
<td>B</td>
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<tr>
<td>Friday</td>
<td>16:00 - 18:00</td>
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### Office hours - Ricevimento:

- Nanni: appointment by email, c/o ISTI-CNR
Exams

Same procedure as DM 1

- **Written exam**
  - exercises and questions about all topics – sequential patterns, classification (advanced topics), times series, outliers detection, the data mining process
  - Two (optional) mid-term exams will be given as replacement

- **Project(s)**
  - Topics proposed during the classes
  - Report to be sent 2 days before the oral exam
  - Groups composed of up to 3 people
  - To be performed using the tools presented during classes (Knime, Python, ...)

- **Oral exam**
  - Short discussion of the project (group presentation, where possible)
  - All topics presented during the classes
Web-site

• Same as DM 1:

http://didawiki.di.unipi.it/doku.php/dm/