Laboratory for Cognitive Modeling

**Head:** Professor Dr. Igor Kononenko  
**Fax:** (+386 1) 426 4647  
**Phone:** (+386 1) 47 68 + ext.  
**WWW:** http://lkm.fri.uni-lj.si

<table>
<thead>
<tr>
<th>Staff</th>
<th>E-mail</th>
<th>Ext</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor <strong>Dr. Igor Kononenko</strong></td>
<td><a href="mailto:igor.kononenko@fri.uni-lj.si">igor.kononenko@fri.uni-lj.si</a></td>
<td>390</td>
</tr>
<tr>
<td>Associate Professor <strong>Dr. Marko Robnik Šikonja</strong></td>
<td><a href="mailto:marko.robnik@fri.uni-lj.si">marko.robnik@fri.uni-lj.si</a></td>
<td>188</td>
</tr>
<tr>
<td>Assistant Professor <strong>Dr. Matjaž Kukar</strong></td>
<td><a href="mailto:matjaz.kukar@fri.uni-lj.si">matjaz.kukar@fri.uni-lj.si</a></td>
<td>914</td>
</tr>
<tr>
<td>Assistant Professor <strong>Dr. Zoran Bosnić</strong></td>
<td><a href="mailto:zoran.bosnic@fri.uni-lj.si">zoran.bosnic@fri.uni-lj.si</a></td>
<td>459</td>
</tr>
<tr>
<td>Assistant <strong>Petar Vračar, M.Sc.</strong></td>
<td><a href="mailto:petar.vracar@fri.uni-lj.si">petar.vracar@fri.uni-lj.si</a></td>
<td>459</td>
</tr>
<tr>
<td>Junior Researcher <strong>Erik Štrumbelj, B.Sc.</strong></td>
<td><a href="mailto:erik.strumbelj@fri.uni-lj.si">erik.strumbelj@fri.uni-lj.si</a></td>
<td>459</td>
</tr>
<tr>
<td>Junior Researcher <strong>Darko Pevec, B.Sc.</strong></td>
<td><a href="mailto:darko.pevec@fri.uni-lj.si">darko.pevec@fri.uni-lj.si</a></td>
<td>459</td>
</tr>
</tbody>
</table>

**RESEARCH ACTIVITIES**

Laboratory for Cognitive Modeling (LKM) was officially founded in 2001. LKM carries out research in cognitive modeling, machine learning, neural networks, picture and data mining. Research results concern the modeling of noisy data related to cognitive, medical, biological and other processes. We are developing, testing and applying new approaches and algorithms for modeling from numeric, symbolic and pictorial data, and new approaches to building, evaluation and explanation of models, derived from data. Recent research is related to development of methods for evaluating the utility of ordinal attributes, for evaluating the reliability of single models' predictions in classification and regression, for evaluating the reliability of clustering, for explaining single predictions by arbitrary classification or regression model, and for efficient parametrization of images using a subset of possible image resolutions. LKM collaborates with psychologists, physicians, biologists, physicists and chemists. A notable aspect of much of this research is its application to problems in image analysis, medical diagnosis, ecological modeling, alternative medicine, and studies of consciousness.

**RESEARCH PROJECTS**

- Electricity load forecasting supported by prediction explanation and prediction reliability estimates, (BI-PT/10-11-007). Bilateral Collaboration Project (Slovenia-Portugal), Slovenian Research Agency (2010-2011).

**LABORATORY GUESTS**

Prof. Dr. Petr Savicky, University of Prague, 23.8.2010–3.9.2010 and 11.11.2010–23.11.2010,
research collaboration on Learning in Imbalanced Data.


Ercan Canhas, MSc, University of Priština, Kosovo, 1.1.2010-15.9.2010, PhD scholarship funded by EU, research in text mining.

INVITED TALKS AND LECTURES


SELECTED PUBLICATIONS


The book by two members of LKM was published by Horwood and represents the appreciation of our research work.

We collaborate with several Universities and Institutes from Greece, Portugal, Spain, Czech Republic, Serbia and Belgium.