Laboratory for Cognitive Modeling

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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

- Machine Learning of Probabilities with Applications to Web Portals and Medical Diagnostics, Bilateral Collaboration Project (BI-PT/06-07-004), 2006–2008


**Laboratory Guests**

- Prof. dr. Petr Savitsky, University of Prague, 19. - 26. November 2008, research collaboration on Artificial intelligence and intelligent systems.

**Research Visits**


**Invited Talks and Lectures**


**Selected Publications**


Figure captions:

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

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