

WT2.18a: Technical University Dortmund

Report

Activities performed during the visit

in Technical University Dortmund

period: 4 - 15.05.2015

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Personal Information

Mr. Piotr Szymański, faculty member of Wrocław University of Technology visited Technical University of Dortmund in the period from 4.05.2015. to 15.05.2015 in order to carry out research and training activities in the field of machine learning, network analysis and data science.

Information about Seminars

The seminar presentation was organized on 12.05.2015

It was entitled:

Can we select generalization strategies based on community structure embedded in binary variable co-occurrence graphs? A discussion based on the example of multi-label classification.

Description of scientific activities

(Please describe value added to the ENGINE project i.e. new knowledge, new skills with respect to the objectives of the project, the assigned common area of future cooperation with the partner, plans for common research, projects, publications and how it could be used in the scope of ENGINE)

- joint work on applying LDA to multiplex graphs was conducted
- experiments on temporal multiplexes from DBLP was conducted
- optimization approach and problem relaxation of multi-label label clustering has been evaluated

During the short visit research contacts with the team of prof. Kristian Kersting was established. Details of further cooperation including NetSci-X 2016 conference were discussed. Work on applying LDA to community detection in multiplex graphs has been conducted and results were experimentally evaluated on DBLP temporal multiplex data sets.

Furthermore a relaxed version of the multi-label classification label clustering problem was discussed. It was based on seeking a label division based on manipulating the tradeoff between a column-wise division similar to Binary Relevance approach and row-wise approach as in Label Powerset. A quality function that mixed both approaches was established and a relaxed, convex version of the function has been used for experimental purposes.

Information referring to the intellectual property

(the generally binding law in this area in the visited country and procedures of patenting);

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Description of the cooperation between universities and industry

(how it is organized in partner's organization, the sources of funding, the opinions about drawbacks and strengths of existing solution).

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Other activities

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REMARK: Apart from this information also a program of the visit and the presentation in electronic version should be given to the project office (please send all of them to Urszula.Markowska-Kaczmar@pwr.wroc.pl). Please respond to the points 1-5 for outgoing visit and points 1-3 for incoming visit. Point 6 is for extra activities that are not put in points 1-5.