



## Creation? Innovation? Ambition?

The Humanities and Social Sciences Group; Faculty of Business and Economics; Research Centre for Management Informatics (LIRIS) are looking for

### PhD Researcher (f/m) - ABV201215

The Leuven Institute for Research on Information Systems (LIRIS) performs research on the business aspects of Information and on the Information aspects of Business. Main research topics are: architecture, modelling and development of information systems, enterprise architecture and modelling, business rules, data, processes and events, database and content management, business intelligence and knowledge discovery, process mining, services, IT services, simulation, network economics, business-ICT integration and alignment, enterprise application integration, governance and compliance. Research projects in these domains are focusing both on fundamental research as on applied research.

#### Your opportunities

The Leuven Institute for Research on Information Systems (LIRIS) has an open PhD position in the field of 'Social Network Analytics: new algorithms and business applications'.

Social networks are attracting a growing interest from the data mining community. Facebook or email accounts connected through messages, and customers of telecom operators or financial institutions linked by calls and money transfers are just a few examples of such networks. Huge amounts of networked data are available on social networks, which potentially hide extremely valuable information to companies and organizations. Relational learning techniques aim to retrieve such information and to build network classification and regression models by exploiting the network structure of the data. This project will build upon and extend existing relational learners in order to deal with large scale networks, and to incorporate both non-Markovian and time-dependent network behavior. Furthermore, a novel technique based on swarm intelligence, and more specifically Ant Colony Optimization (ACO), will be developed to induce high-performing yet scalable network models, by making use of ACO's distributed nature and effective solution finding properties. The developed algorithms will be incorporated in a modular toolbox within the open-source data mining workbench Weka, and experimentally tested in large scale benchmarking experiments. The flexibility and complementarity of the NetBox modules will allow to extend and combine existing and novel relational learning techniques, leading to powerful network classification models.

- You will find a dynamic and pleasant working environment, in a group which conducts research at the highest international level.
- This research is performed under the supervision of Professor Bart Baesens.
- The candidate is also expected to participate in seminars and conferences, and to enroll in the Phd program of the Faculty of Business and Economics.
- The candidate can be asked to give guidance to students (e.g., by supervising their master's thesis) and to supervise exams.

#### Your profile

- Candidates preferably have a masters degree in Civil Engineering, Computer Sciences, Informatics, Commercial Engineering in Informatics or Information Management;
- They should be fluent in object oriented programming (Java).
- Excellent (honors-level) results in prior studies are required.
- Candidates are fluent in spoken and written English.
- They have a strong interest in academic research.
- Master's and undergraduate students in their last year are especially encouraged to apply.
- Candidates are asked to submit, in addition to their CV, information on the results of prior studies, and a motivation letter to Bart Baesens (Bart.Baesens@econ.kuleuven.be).

#### Our offer

We offer an employment as full-time PhD researcher for 1 year, renewable till max. 4 years.

#### Interested?

Please visit <http://www.kuleuven.be/vacatures> and apply online.

For more information about the job description, please contact Prof. Dr. B. Baesens, [bart.baesens@econ.kuleuven.be](mailto:bart.baesens@econ.kuleuven.be), tel:+32 16 326884

Applications must be received no later than 14/03/2012.

K.U.Leuven carries out an equal opportunity and diversity policy.