Post-doc position on data analytics and machine learning for smart cities

Uppsala University is a comprehensive research-intensive university with a strong international standing. Our mission is to pursue top-quality research and education and to interact constructively with society. Our most important assets are all the individuals whose curiosity and dedication make Uppsala University one of Sweden's most exciting workplaces. Uppsala University has 42,000 students, 7,000 employees and a turnover of SEK 6.7 billion.

The Department of Information Technology has a leading position in research and education. The Department currently has about 280 employees, including 120 teachers and 110 PhD students. More than 4000 students study one or more courses at the department each year. More info: <u>http://www.it.uu.se</u>

Subject Area/Scope: Cities around the world are currently under quick transition towards a low carbon environment, high quality of living, and resource efficient economy. Data from various sources (e.g. Internet-of-Things, smart systems) and context (e.g. water, energy, traffic, and buildings) are considered to be the most valuable asset of a smart city. However, the heterogeneity of data makes it difficult to interpret, combine, analyze, and consume. Artificial intelligence and big data analytics are valuable techniques to be explored for addressing this challenge.

This project aims at investigating data analytics and machine learning methods to strengthen urban planning and knowledge sharing between cities and stakeholders. It includes the design and development of an interconnected knowledge platform to guide and improve robust decision making on future urban development. The project solution will be implemented and experimented in real environments in Europe, US and Asia, through international collaborations within the EU CRUNCH project.

Project Description: The EU CRUNCH project will strengthen urban planning and knowledge sharing between cities and stakeholders through creating an interconnected knowledge platform (an Integrated Decision Support System - IDSS), to guide and improve robust decision making on future urban development. The project solutions will be implemented in the Urban Living Labs (ULLs) in participating

cities, including Southend-on-Sea, Uppsala, Eindhoven and Gdansk; Miami and Taipei. CRUNCH will lead to a comprehensive platform solution that can provide deep knowledge and facilitate experience sharing between cities, foster innovation and cost-effectiveness across the ULLs.

Duties: Successful candidate will contribute to the design and development of novel scientific algorithms and systems, including:

- Design and development of an integrated knowledge platform for data collection, knowledge sharing, and visualization for smart cities.

- Data analytics and machine learning algorithms to support decision making and urban planning.

- Evaluation of project solutions and publishing in high quality venues.

Qualifications: Qualified applicants should have a Ph.D. degree. The degree should typically have been obtained not more than three years ago. The applicant should have a strong background in data analytics and machine learning. Experience with smart cities and urban computing will be favorable. Good programming skills (e.g. web programming, software programming) and communication skills are required in this project.

Application: Applications should include a description of research interests and past experience, including a motivation for applying for this position, a CV, copies of exams, degrees and grades, a copy of Ph.D. thesis (or a draft thereof), relevant publications, and other relevant documents. Candidates are encouraged to provide up to 3 letters of recommendation and contact information to reference persons. Applications should contain information about earliest feasible starting date of employment.

For further information about the position, please contact Dr. Edith C.-H. Ngai, phone +46 18 – 471 5745, edith.ngai@it.uu.se