

Mining Negation of Constraints, Application to Online Problem Solving and Knowledge Discovery in Big Data

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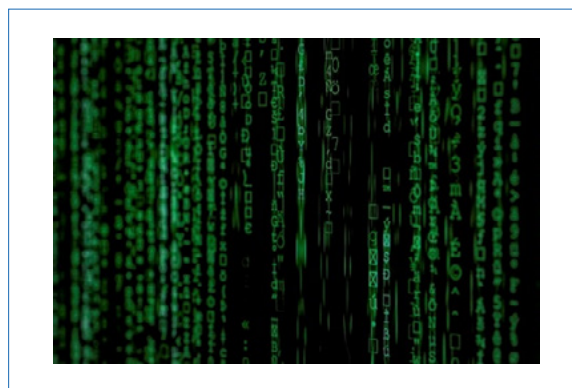


Abstract

This talk will discuss and illustrate the benefit of mining negation of constraints for two different research domains: online problem solving and knowledge discovery in Big Data.

In the context of online problem-solving applications, we show how the discovery of spatio-temporal constraints representing conflicting assignment rules between drivers and riders can help to solve online larger ride-sharing problems. Ride-sharing problems are sub-classes of vehicle routing problems aiming at assigning prospective passengers to drivers' cars.

In the context of knowledge discovery applications, we exhibit a general key discovery approach that takes advantage of non-key discovery to tackle large RDF knowledge bases. In the context of data linking, key constraints that uniquely identify a resource are used to infer identity links between evolutive and heterogeneous knowledge bases. At the end of the talk we discuss how these approaches can be generalized and reused in different applicative contexts, including numerical agriculture.



Biography

Vincent Armant is a researcher at INRAE (French National Institute for Agriculture and Environment) and Insight Centre For Data Analytics UCC. He has completed his PhD in 2012 from University Paris Saclay. He has been co-leader and principal investigator of industrial projects on ride-sharing and on-demand mobility from 2017 till 2019 and he was the co-leader of the work package "Scenario Assessment of WISE-ACT Cost Action European project" from 2017 till 2019.

Publications

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