UNIVERSITÄT PADERBORN
Die Universität der Informationsgesellschaft

REGELUNGS- UND AUTOMATISIERUNGS-TECHNIK

FAKULTÄT FÜR ELEKTROTECHNIK, INFORMATIK UND MATHEMATIK

Vortragsankündigung

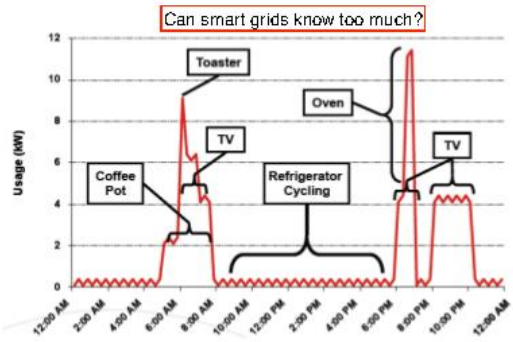
Am

Dienstag, 07. Mai 2019
in Raum P1.3.02.1 um 16.00 Uhr

hält Herr Prof. Jerome Le Ny, Department of Electrical Engineering, Polytechnique Montreal einen Vortrag über

Differential Privacy for Dynamic Data

Abstract:
Emerging systems such as smart grids or intelligent transportation systems often require end-user applications to continuously send information to external data aggregators performing monitoring or control tasks. This can result in an undesirable loss of privacy for the users in exchange of the benefits provided by the application. Motivated by this trend, we introduce privacy concerns in a system theoretic context, and address the problem of releasing filtered signals that respect the privacy of the users' data streams. Our approach relies on a formal notion of privacy from the database literature, called differential privacy, which provides strong privacy guarantees against adversaries with arbitrary side information. This talk will discuss a number of scenarios where designing filters and dynamic estimators with privacy constraints is important, and show how tools from systems and control theory can help with this task.



Bio:
Jerome Le Ny is an Associate Professor in the Department of Electrical Engineering at Polytechnique Montreal since May 2012, where he directs the Mobile Robotics and Autonomous Systems Laboratory. He is also a member of GERAD, a Montreal-based multi-university research center for decision science. He was previously a Postdoctoral Researcher with the GRASP Laboratory and the PRECISE Center for embedded systems at the University of Pennsylvania. He graduated from the Ecole Polytechnique, France, in 2001, received a M.Sc. degree in Electrical Engineering from the University of Michigan, Ann Arbor, in 2003, and a Ph.D. degree in Aeronautics and Astronautics from the Massachusetts Institute of Technology, Cambridge, in 2008. His research interests include robust and stochastic control, dynamic resource allocation problems, mean-field games, and security and privacy for cyber-physical systems, with applications to autonomous and embedded systems, multi-robot systems, and intelligent infrastructure monitoring and control. He is visiting TU Munich during the academic year 2018-2019 with the support of a fellowship from the Alexander von Humboldt Foundation.