

Spatio-Temporal Analysis of Mobile Traffic Data

Razvan Stanica

INSA Lyon

Lyon, France

razvan.stanica@insa-lyon.fr

Abstract: Mobile phones are accompanying us permanently and produce a lot of metadata, collected by network operators for legal and business reasons. This mobile traffic data allows the study of a population at an unprecedented scale, with applications not only in wireless networks, but also in sociology, transportation, and urban planning. In this talk, we will summarize a set of results obtained in the last decade on different datasets from multiple mobile operators. We will show how mobile traffic data can be used to extract the circadian cycles of an urban population, as well as its strong correlation with land use in urban areas. We will also analyze the behavior of different major mobile services, showing a diversity of patterns. Finally, we will have a look at individual user traffic data, showing how it can be used as a proxy for human mobility.



Short CV: He was born in Craiova, Romania, where he also finished high school in 2003. His undergrad life kept him oscillating between the University "Politehnica" of Bucharest and the National Polytechnic Institute of Toulouse, in a complicated program which allowed him to obtain a double degree from these universities in 2008. During his studies, he did two internships at Freescale and he had quite a few laughs with these guys.

After six months in Lyon, where he worked on his MEng project at LIP under the supervision of Eric Fleury, he returned to Toulouse in October 2008, when he joined the IRT team as a PhD student. For three years, he worked on new ideas for vehicular networking, supervised and inspired by André-Luc Beylot and Emmanuel Chaput.

In November 2011 he obtained the PhD degree from the National Polytechnic Institute of Toulouse for the thesis entitled "Congestion Control in Vehicular Networks" and he spent the next year as a teaching assistant (ATER) in the Communications and Networking department of ENSEEIHT.

Since September 2012, he is an Associate Professor with the Telecommunications department at INSA de Lyon. He holds a joint appointment with the CITI laboratory, where he is a member of the Inria Agora team.