Contribution ID: **116**   Type: **not specified**

Using of machine learning algorithms to the problem of recognition of vehicles tracks

Monday, 3 July 2017 17:00 (30 minutes)

Within the framework of our project on modeling of urban transport traffic, we consider the following task. There is a mobile application that continuously records the geographic coordinates of the mobile device and data from its other sensors (for example, an accelerometer). These data form a "loaded" track - the trajectory of the movement of the device, the points of which are assigned additional information. Our goal is to automatically extract from this raw track those parts of it that correspond to the movement of the device on the vehicle (car, taxi, bus). Collected in this way, "transport" tracks in the future should be combined into a single network - a scheme of traffic in a certain area. To solve this problem, it is proposed to use algorithms of machine learning. We collected a database of training data - short tracks (10 seconds) with a known type of traffic - "car" and "no car". These data were used to construct a logistic regression to predict the likelihood that a given track corresponds to movement on a car. A method for improving recognition is proposed, taking into account the connectedness of individual tracks (neighboring tracks should most likely belong to the same type). The results of testing the proposed approach for the analysis of traffic tracks in the Dubna town are presented.

Primary author: Ms PUCHKOVA, Natalia (student)

Co-author: Dr ERSHOV, Nikolay (Moscow State University)

Presenter: Ms PUCHKOVA, Natalia (student)

Session Classification: Poster Session