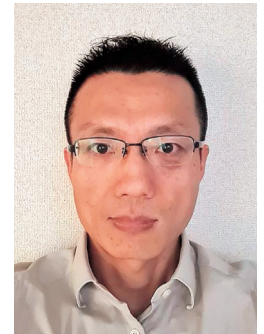受領№. 1538

スムーズ交通のための AI 駆動型パーソナライズされた旅行情報レコメンデーション

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AI enabled coordinated and personalized travel information recommender for smooth traffic

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研究概要

This project aims to develop a new travel information recommender system for car drivers using artificial intelligence (AI) algorithms to smooth road traffic. The recommender information (alternative route, varying departure time, etc.) will be formulated based on both the coordinated overall traffic situation and the learned preferences and tastes of individual drivers in activity-travel decisions, allowing the recommended travel information to be customized and effective for drivers' behavior change. AI algorithms will be developed to predict the travel time of the routes between origins and destinations, and to learn/predict individual drivers' behavior changes. The matrix of travel information and social demographics will be factorized to capture the similarity based on which recommendation can be oriented to the matched person. The recommender system will be developed and tested using an existing mobile application that records the real-time location trajectory of car drivers and serves as a data collection tool for the development of AI models. Developing a coordinated and personalized travel information recommender can achieve at least the following outcomes: 1) the percentage of congestion reduction induced by the use of the travel information recommender will be identified; 2) the extent that drivers comply with the personalized travel information recommendation will be measured. Such a travel information recommender system has a huge potential in improving road traffic situation and value to the research community in sustainable urban transition leveraging behavior change of individual drivers.