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Prediction of hourly floating population based on mobile phone data in Korea

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The floating population is useful to figure out dynamic activities in urban area. Therefore, the prediction of floating population is required to practical use in urban and transportation planning. In Korea, the hourly floating population is estimated based on communication log of mobile phone. The communication log contains contents such as communication location, origin of mobile phone user. This paper is aimed to predict hourly floating population using mobile phone data, macroscopic data such as socioeconomic index, and several data mining techniques. The data collected in Seoul, the capital of South Korea, is used in this study. Also, the prediction accuracy by data mining technique is compared with each other, and the best model to predict hourly floating population is proposed in this study.

Recent Publications

1. **Ho-Chan K and Seungyoung K (2016) Predicting crash risk and identifying crash precursors on Korean expressways using loop detector data. Accident Analysis and Prevention 88:9-19.**
2. **Ho-Chan K, Dong-Kyu K, Seungyoung K and Chungwon L (2014) A crash prediction model for expressways using genetic programming. Journal of Korean Society of Transportation 32(4):369-379.**

Biography

Ho-Chan Kwak has completed his PhD at Seoul National University (SNU) and Postdoctoral studies in the Institute of Construction and Environmental Engineering at SNU. He is the Senior Researcher at Korea Railroad Research Institute (KRRI), a government-funded transportation science and technology research organization. He has studied in the fields of transportation big data (such as smart card data and mobile phone data etc.) analysis and application in order to improve the quality of mobility through future transportation technology. He has published more than 10 papers in transportation planning and safety related journals and performed more than 30 projects related in transportation engineering.

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