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Information Communication Technology Based Road Traffic Accidents' Identification, and Related Smart Solution Utilizing Big Data

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Abstract : Today the world of research enjoys abundant data, available in virtually any field, technology, science, and business, politics, etc. This is commonly referred to as big data. This offers a great deal of precision and accuracy, supportive of an in-depth look at any decision-making process. When and if well used, Big Data affords its users with the opportunity to produce substantially well supported and good results. This paper leans extensively on big data to investigate possible smart solutions to urban mobility and related issues, namely road traffic accidents, its casualties, and fatalities based on multiple factors, including age, gender, location occurrences of accidents, etc. Multiple technologies were used in combination to produce an Information Communication Technology (ICT) based solution with embedded technology. Those technologies include principally Geographic Information System (GIS), Orange Data Mining Software, Bayesian Statistics, to name a few. The study uses the Leeds accident 2016 to illustrate the thinking process and extracts thereof a model that can be tested, evaluated, and replicated. The authors optimistically believe that the proposed model will significantly and smartly help to flatten the curve of road traffic accidents in the fast-growing population densities, which increases considerably motor-based mobility.

Keywords : accident factors, geographic information system, information communication technology, mobility
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