APPLICATION OF MACHINE LEARNING TECHNIQUES TO PREDICT ASPHALT PAVEMENT SURFACE DETERIORATIONS

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ABSTRACT
To predict the correct time for rehabilitation or routine maintenance, it is necessary to have functions or performance models to predict surface deterioration. This paper presents a tool development to predict the evolution of surface deterioration values using machine learning techniques. They create a function capable of predicting the value of the attribute corresponding to any object after having seen a considerable series of examples. That is, make predictions of evolution based on behaviors or characteristics that have been seen in stored data. The work was carried out based on periodic observations of surface deteriorations of sections located on routes of Littoral region of Argentina. It was possible to develop predictive models from the application of Support Vector Machine Regression and Random Forest Regression. These are machine learning tools, which allowed us to solve estimation problems of multidimensional functions, based in this case on age, structural resistance, traffic and deterioration.