كلية الحاسبات والذكاء الاصطناعي
Faculty of Computers and Artificial Intelligence
كليـــة معتمـــدة

جـــامعة الفـــيوم
Fayoum University

بيانات البحـــث رقـــــم (٣) :

عنوان البحث باللغة الإنجليزية	Fuel Consumption Prediction Model using Machine Learning
أسماء المؤلفين	Mohamed A. Hamed, Mohamed H. Khafagy , Rasha M.Badry
اسم المجلة	International Journal of Advanced Computer Science and Applications
تاريخ النشر	November 2021
التصنيف	International Journal
البحث مشتق من رسالة ماجستير	Vehicle's Fuel Decreasing Detection System Using Internet of Things (IoT) Technology
ISSN	2156-5570
DOI	10.14569/IJACSA.2021.0121146

ملخص البـــــحث باللغة الإنجليزية :

In the paper, we are enhancing the accuracy of the fuel consumption prediction model with Machine Learning to minimize Fuel Consumption. This will lead to an economic improvement for the business and satisfy the domain needs. We propose a machine learning model to predict vehicle fuel consumption. The proposed model is based on the Support Vector Machine algorithm. The Fuel Consumption estimation is given as a function of Mass Air Flow, Vehicle Speed, Revolutions per Minute, and Throttle Position Sensor features. The proposed model is applied and tested on a vehicle's On-Board Diagnostics Dataset. The observations were conducted on 18 features. Results achieved a higher accuracy with an R-Squared metric value of 0.97 than other related work using the same Support Vector Machine regression algorithm. We concluded that the Support Vector Machine has a great effect when used for fuel consumption prediction purposes. Our model can compete with other Machine Learning algorithms for the same purpose which will help manufacturers find more choices for successful Fuel Consumption Prediction models.