IJARSCT

Impact Factor: 6.252

Traffic Prediction for Intelligent Transportation System using Machine Learning

Abhishek Gowda K[1], Karthik B S[2], Mr. Venkatesh[3], Mrs. Vidya[4]

Students, Department of Computer Science and Engineering[1,2]
Senior Associate Professor, Department of Computer Science and Engineering[3]
Assistant Professor, Department of Computer Science and Engineering[4]
Alva's Institute of Engineering and Technology, Mijar, Mangalore, Karnataka, India
abhishekgowdak007@gmail.com

Abstract: *This paper aims to develop a tool for predicting accurate and timely traffic flow Information. Traffic Environment involves everything that can affect the traffic flowing on the road, whether it's traffic signals, accidents, rallies, even repairing of roads that can cause a jam. If we have prior information which is very near approximate about all the above and many more daily life situations which can affect traffic then, a driver or rider can make an informed decision. Also, it helps in the future of autonomous vehicles. In the current decades, traffic data have been generating exponentially, and we have moved towards the big data concepts for transportation. Available prediction methods for traffic flow use some traffic prediction models and are still unsatisfactory to handle real-world applications. This fact inspired us to work on the traffic flow forecast problem build on the traffic data and models. It is cumbersome to forecast the traffic flow accurately because the data available for the transportation system is insanely huge. In this work, we planned to use machine learning, genetic, soft computing, and deep learning algorithms to analyse the big-data for the transportation system with much-reduced complexity. Also, Image Processing algorithms are involved in traffic sign recognition, which eventually helps for the right training of autonomous vehicles.*

Keywords: Traffic Environment, Deep Learning, Machine Learning, Genetic Algorithms, Soft Computing, Big Data, Image Processing

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