Vehicle Longitudinal and Lateral Dynamics Modeling by Deep Neural Network

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- A data-driven method based on neural network is proposed to build the vehicle longitudinal and lateral dynamics model.
- The proposed network could learn the implicit dynamic model from the history data.
- The longitudinal acceleration modeling precision could be improved by 40%. the lateral distance mean absolute error of the neural network model is 0.026m while the traditional method is about 0.06m.