<!DOCTYPE html>

<html>

<head>

<title></title>

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<h1>Performance comparison of the of multilayer perceptron network, recurrent neural network, neural network and long short-term memory in spatio-temporal prediction of taxi demand</h1>

<p>Accurate taxi demand prediction allows drivers to find passengers quickly and reduces waiting time. With the increasing popularity of internet taxi services, a lot of data on taxi demand has become available. How to use this data to improve taxi demand predictiong is one of the most important issues in the world today. Recent advances in deep learning have shown that they are more efficient than traditional methods in learning complex features and correlations. However, this is challenging due to the complex spatial and temporal dependencies on taxi demand. In this study, data on taxi demand in Tehran, published by Tepsi Company in a period of one hour per hour, has been used. To predict taxi demand in Tehran, three multilayer perceptron networks, recurrent neural network and long short-term memory have been used to predict taxi demand. Finally, these three methods are compared and the multilayer perceptron network with an average absolute error of 0.052 on the test data has the best performance.</p>

<p style="text-align: center;">AKS11</p>

<p><br></p>

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