**摘　要**

高速公路车辆类型自动检测是智能交通系统中的一个重要组成部分。本文使用当前实时性最佳的机器学习框架Darknet实现了车辆类型的识别系统。该系统基于Darknet框架，使用YOLOv3目标检测算法，实现196种不同厂商及型号的汽车位置检测与分类。该系统不仅可以用于道路关卡的车流量分析，还可以协助人类认识各类汽车。

**关键词**：机器学习，车辆检测，智慧交通，Darknet，YOLO

**ABSTRACT**

The automatic detection of expressway vehicle type is an important part of its. In this paper, we use Darknet, the best real-time machine learning framework, to implement the vehicle type recognition system. This system is based on the framework of Darknet, and uses the algorithm of yolov3 target detection to detect and classify the position of 196 different manufacturers and models. The system can not only be used in traffic flow analysis of road level, but also help people to know all kinds of cars.

**KEY WORDS**：Machine Learning, Vehicle Detection, Intelligent Transportation, Darknet, Yolo