

INTISARI

Pengenalan Plat Nomor Kendaraan Menggunakan Arsitektur YOLO

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Pengenalan plat nomor otomatis adalah sistem yang dapat mengenali plat nomor kendaraan secara otomatis tanpa bantuan manusia. Tahapan yang umum digunakan adalah deteksi plat nomor, segmentasi karakter, dan klasifikasi karakter. penelitian ini menggunakan YOLOv3 untuk menggantikan tahapan segmentasi dan klasifikasi karakter menjadi tahapan deteksi karakter. YOLOv3 digunakan dalam mendeteksi plat nomor dan karakter yang ada di dalamnya.

Penelitian ini menggunakan 1600 gambar yang diambil dengan kondisi pencahayaan, latar belakang, dan fisik plat yang beragam. Hasil penelitian ditinjau dari banyaknya plat yang berhasil dikenali dengan benar, plat yang berhasil dikenali namun salah, dan plat yang tidak dikenali. Dari 115 plat yang digunakan dalam pengujian, sistem yang dibuat mampu mengenali 96 plat dengan persentase 83,5%. Plat yang dikenali namun salah sebanyak 11 plat dengan persentase 9,5%. Sedangkan plat tidak dikenali sebanyak 8 plat dengan persentase 7%.

Kata kunci: Pengenalan plat nomor otomatis, YOLOv3, deteksi objek.

ABSTRACT

Vehicle License Plate Recognition Using YOLO Architecture

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Automatic number plate recognition is a system that can recognize vehicle license plates automatically without human assistance. The commonly used stages are license plate detection, character segmentation, and character classification. This research uses YOLOv3 to replace the stages of character segmentation and classification into character detection stages. YOLOv3 is used in detecting license plates and the characters present in them.

This research uses 1600 images taken with various lighting conditions, backgrounds, and physical conditions from plate. The results of the research were reviewed in terms of the number of plates that were successfully recognized correctly, plates that were successfully recognized but wrong, and plates that were not recognized. From 115 plates used in the test, the system was able to recognize 96 plates with a percentage of 83.5%. The plates that were recognized but wrong were 11 plates with a percentage of 9.5%. While the plates were not recognized as many as 8 plates with a percentage of 7%.

Keywords: Automatic number plate recognition, YOLOv3, object detection