Road detection using CRF Fusion

BTP Thesis-1

Introduction

This work describes my first BTP project completed along with three other students. We proposed a robust and efficient road detection algorithm which makes use of 2D and 3D cues from the Neural net and Disparity respectively. We introduced a structured probability distribution for the Disparity as can be seen in Fig.[1], Fig.[2] and Fig.[3]. Then, the outputs from both these methods were explicitly fused using a conditional random fields framework. The fused outputs can be seen in Fig.[5] and Fig.[7]

Fig. 1: Row Probability

Fig. 2: Column Probability

Fig. 3: Net Distribution

Fig. 4: Resnet-18

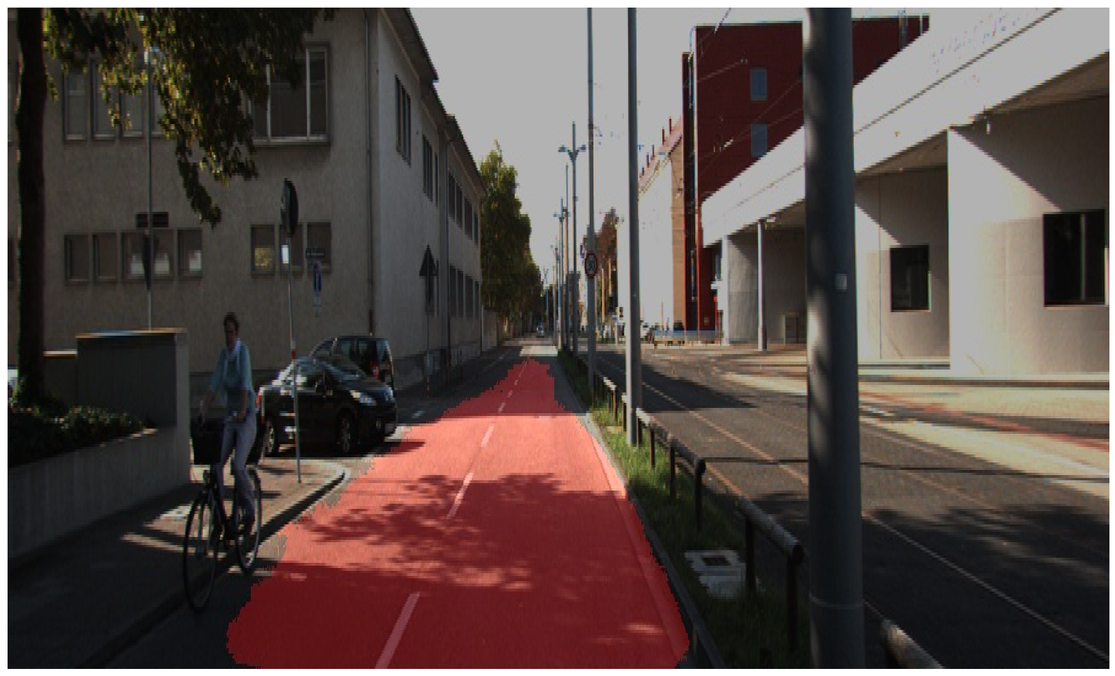

Fig. 5: Fused Output

Fig. 6: Resnet-18

Fig. 7: Fused Output