Schmidt, Sabrina; Färber, Berthold:
Pedestrians at the kerb – Recognising the action intentions of humans
In: Transportation Research, Part F, Traffic, Psychology and Behaviour, 12(4), pp. 300-310, July 2009.

Abstract
Aim of the presented research is the development of a cognitive driver assistance system, which can capture the traffic situation, analyse it, and warn the driver in case a pedestrian is a potential hazard. Hence parameters have to be identified by which the intention of the pedestrian can be unambiguously predicted. Two approaches to the topic are addressed. First, the pedestrian's perspective was taken. The question was how crossing decisions were influenced by the parameters distance and velocity of the car. Following a signal, participants had to choose to cross the road in front of or behind the car. The data analysis showed that pedestrians relied on the distance of the car rather than the time to collision for their decision. In the second experiment the observer's perspective raised the question what parameters humans use to predict pedestrians' intentions. Videos of natural traffic scenes were presented. Participants had to make statements about whether the shown pedestrian would cross the street during the next moment. In a baseline and four experimental conditions, certain information was masked in the videos. Just the condition in which only the trajectory information of the pedestrian was available produced a higher error rate.