Drowsiness and tiredness of drivers are amongst the significant causes of road accidents. Every year, they increase the amounts of deaths and fatalities injuries globally. Around 40% of highway accidents occurs due to drivers drowsiness. Driver tiredness often becomes a direct cause of many traffic accidents. Therefore, there is a need to develop the systems that will detect and notify a driver of her/him bad psychophysical condition, which could significantly reduce the number of fatigue-related car accidents. The best way to avoid accidents caused by drivers' drowsiness is to detect drowsiness of the driver and warn him before fall into sleep. However, the development of such systems encounters many difficulties related to fast and proper recognition of a driver’s fatigue symptoms. One of the technical possibilities to implement driver drowsiness detection systems is to use the vision-based approach.