

# FATIGUE DETECTION

## STAYING AWAKE WHEN YOU NEED TO THE MOST



### TECHNOLOGY BRIEF

A device worn near the eye, this technology can detect changes in eye or head movement.

### IP PROTECTION

US Patent 9,811,993

### RESEARCHER



Dr. Jibo He is an Associate Professor of Psychology at Wichita State University. At WSU Dr. He is in charge of the Human Automation Interaction Laboratory, which he uses to focus his research on driver distraction,

attention and eye movement, human computer interaction, and computer vision. Dr. He has experience with data mining and extraction, user-centered design, and eye tracking technology. Over the years, Dr. He has written 25 peer-reviewed journal articles, and he has been granted over a million dollars for research from the National Science Foundation.

➔ Most vehicle and aviation accidents are related to drowsiness. In 2005 NHTSA recovered that drowsiness was leading factor in 100,000 police-reported crashes, which resulted in 1,500 deaths, 71,000 injuries, and 12.5 billion dollars in financial loss. Currently, the method used to monitor fatigue is costly. For example, cameras are embedded into automotive and aviation vehicles to record all drivers response times and decisions. Another alternative for fatigue monitoring has been EEG sensors to record brain activity, but these require additional cost and set-up for each use.

### ADVANTAGES

In efforts to alleviate the roads and runways of tired drivers, this Google Glass application detects the user's fatigue, and is reliable and portable. Many drowsiness indicators such as head nods, head rotations, and eye blinks are recorded and submitted for an attentive assessment in efforts to reduce accidents of users in the driving and aviation industry.

### APPLICATIONS

This fatigue detection technology is useful for truck drivers, train engineers, pilots – anyone responsible for operating vehicles for long periods of time. Examples of such safety-critical industries include:

- ➔ Automotive
- ➔ Aviation
- ➔ Biotechnology
- ➔ Health and Wellness

### For additional information, please contact:

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