In-Vehicle Emergency Medical Condition Detection System

AWARD AMOUNT: $1M

THE PROBLEM

Cardiovascular events are responsible for a high number of vehicle crashes in the United States. A driver experiencing an unexpected cardiac event isn't the only person at risk: fellow passengers and motorists also face serious injury or death.

- New car technology that could predict cardiac events on the road to prevent vehicle crashes

THE SOLUTION

- Pioneering in-vehicle physiological monitoring
- Application beyond cardiac events
- Real-time alert system
- Could pair with autonomous driving technology

THE TECHNOLOGY

State of the art sensors will non-invasively monitor a driver's physiology, while machine learning algorithms will collect and analyze data to predict cardiac events.

The team is currently collecting data from in-hospital and in-vehicle subjects to validate algorithmic and hardware options.

THE TEAM

- Pujitha Gunaratne, PhD
  Toyota Collaborative Safety Research Center
- Hamid Ghanbari, MD
  Internal Medicine
- Kayvan Najarian, PhD
  Emergency Medicine; Computational Medicine & Bioinformatics
- Omid Dehzangi, PhD
  Computer & Information Science
- Harm Derksen, PhD
  Mathematics
- Toyota Collaborative Safety Research Center
- Medical School
- Engineering
- LSA

CARDIOVASCULAR EVENTS

This in-vehicle system may be capable of predicting cardiac events in real-time by continuously monitoring the physiology of a driver.