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Real time vehicle condition monitoring & assessment system

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This paper deals with developing an real time vehicle health assessment system for detecting the vehicle condition by monitoring the internal parameters that are used in evaluating the vehicle's current health condition. Any health related vehicle information plays a critical role in supporting safety, security, mobility, and in improving the reliability of transport. This vehicle information can be a continuous data on performance of the vehicle and the status of its internal components. Measuring dynamic parameters on an in-vehicle is very important to diagnose and analysis the faulty problems and the quality of it. In this paper, an in-vehicle embedded system is being developed to measure the various operating characteristics of an engine in order to develop a real time health assessment system for condition monitoring to generate vehicle health information (VHI) whenever needed by the user. It predicts the future errors so that the driver can have an uninterrupted journey and can avoid accidents. Thus, it alerts the driver about future errors and assists him or her for a safe drive. The data required for generating the real time health report consists of parameter values (outputs of in-built sensors) of different systems inside the vehicle. This data can be obtained using LabVIEW as platform that has automotive diagnostic command set tool kit which helps in building up the software required to communicate with the vehicle's ECU. To achieve such measurements, it requires a real time data acquisition system (DAS) that should be capable of measuring all important parameters.

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Field robotics – The revolution is here!

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Service robots are becoming more and more common in everyday life. From vacuum cleaning robots to delivery robots, we have seen their impact in all of our lives. Field robots need to address key problems when they leave the factory floor and go to work in 'human environments.' But how will field robots impact business? Will they make your job easier or harder? How can you identify a situation in which a robot will be useful to you? And how will you select the right robot for that job? In this course Jim Gunderson a nationally recognized robotics expert and Co-Founder of Gamma 2 Robotics will explain the state of the art in robotics. He will discuss the specific tasks that can be accomplished using robots and the benefits and limitations of various robotic solutions. He will be able to answer your questions about using robots for your specific application.

- Understand the four basic types of robots.
- Identify situations where robots could be used effectively and/or to reduce cost.
- Learn specific challenges faced by robots designed to work alongside people in dynamic and unstructured environments.
- Key market areas those are ripe for 'robotification', and how that will impact the day to day operations of businesses and household life.
- What is on the horizon for field robotics, and how it will impact the business of robots?
- Apply knowledge of robotic solutions to assess the usefulness of a specific robot for your customer's applications.

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