

Computer Science Seminar Series, 2012

National Capital Region

Screening Naturalistic Driving Study Data for Crash Surrogates

Speaker: Dr. Kun-Feng (Ken) Wu

National Research Council/Federal Highway Administration

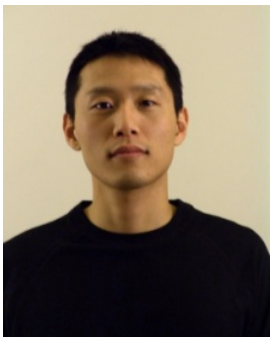
Friday, February 15, 2013

1:00PM- 2:00PM, NVC 325

Abstract

Naturalistic driving is a research technique that electronically observes how people drive using a variety of cameras and sensors such as vehicle accelerometers, gyroscopes and global positioning systems (i.e. GPS). The advantage of the technique is the observation of driving, including crash and near-crash events, which can be used in a range of safety studies. A common attribute of the technique is the need to identify what some have called “safety critical events” (e.g. crashes and near crashes) using a combination of kinematic measures from the accelerometers, gyroscopes and radar along with visual verification and confirmation of event occurrence using video data from any of multiple cameras located on-board the vehicle. Clearly, the longer the duration of the study and the larger the number of subjects, the larger the data base of video and kinematic data to be searched for the relatively rare safety-critical events of interest. This research seeks to systematically study screening of naturalistic driving event data with the goal of a producing a method that is reproducible to many sites and stresses the use of statistics as screening tools, minimizing where possible the use of video.

Biography



Dr. Kun-Feng (Ken) Wu is a Research Associate in the Office of Safety R&D at Federal Highway Administration Turner-Fairbank Highway Research Center. He is currently working on analyzing Strategic Highway Research Program 2 (SHRP2) naturalistic driving study data, a project awarded by the National Research Council, National Academy of Sciences. He holds a master degree in economics from National Taiwan University, and a Ph.D. degree in civil engineering with a minor in statistics from Penn State University. His work focuses on applying statistical models for analyzing naturalistic driving study data, traffic engineering, and transportation policy. He is a recipient of a Federal Motor Carrier Safety

Administration (FMCSA) Young Researcher Award. He also serves as a member of Transportation Research Board (TRB) Statistics Committee.