We design a system leveraging the accelerometer and gyroscope sensors in modern smartphones and wearables to detect instances of distracting driving activities on roads (e.g., calling, texting and reading while driving) in real-time. To do so, we conducted an experiment with 16 subjects on a realistic driving simulator programmed to simulate multiple environmental conditions like daytime, nighttime, fog and rain/ snow. Our simulator is the Computer Assisted Rehabilitation Environment system ( ) operational at USF. Our technique depicts great performance (in terms of Precision, Recall, and F-Measure) across all environmental conditions we tested to detect instances of distracted driving. We believe that our contributions in this project can have a significant impact on enhancing road safety, specifically on the ability to provide real-time feedback to drivers to put the phone down when distracted driving is detected.

THE PUBLIC IS INVITED

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