

Situation Awareness via Deep Learning of Physiological Signals

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Dr. Shannon P. D. McGarry will explore how deep learning methods can innovate the measurement and application of situation awareness, i.e., when a person can perceive, comprehend, and predict current states in his/her environment. One consistent and steadfast criticism of situation awareness is its lack of cognitive grounding and its intrusive measurement methods. This research plans on addressing both shortcomings by implementing the latest in cognitive neuroscience and deep learning – specifically leveraging Dr. Paul Sajda’s findings of measuring cognitive reorientation “in the wild” with physiological measures. Addressing this research will benefit teaming in general, and with autonomous systems, which will make US Naval missions more resilient to unexpected and high workload events.