

Situational Detection is more than just Sensor Detection

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We will present a graph-based framework that spans the temporal aspects of Situational Awareness by applying fusion techniques of sensed data. For real-time decision-making we have developed a highly versatile methodology that can be used in many situations involving high volumes of incoming data that can be filtered through systematically to hypothesize about events of interest in a target environment. INFERD (INformation Fusion Engine for Real-time Decision-making), generates and evaluates (or ranks) the more relevant hypotheses of the current situation to allow a human decision-maker to act accordingly. A number of algorithmic handlers have been created to deal with abnormalities such as imperfect/wrong a-priori information, defragmentation of data sources and failure of sensors. We will demonstrate the value of INFERD in a diverse set of domains from cyber security to Chemical/Biological Sensor Applications.