Smart software to reduce alarm fatigue and improve clinical outcomes

Technology #cu16145

The constant exposure to alarms in medical settings results in desensitization, a phenomenon known as alarm fatigue. Alarm fatigue can lead physicians, nurses, and primary caretakers to ignore critical alarms, risking the health and safety of their patients. This technology is a program, Hum-Dinger, that manages alarms for health care professionals, reducing alarm fatigue and improving the quality of care for patients. Based on advanced machine learning algorithms, this technology reduces alarm fatigue by utilizing an adaptive aiding interface that continuously monitors all alarm activity and all health care provider action. Through active monitoring, Hum-Dinger learns what alarms should be heeded and, through gamification, alerts health care providers to important events. Development of this technology could greatly improve the quality of care received by patients through addressing a major issue of negligent patient care today – alarm fatigue.

Machine learning and gamification increase caregiver engagement, further reducing alarm fatigue

This technology effectively reduces alarm fatigue by utilizing a combination of state-of-the-art machine learning and gamification. Through continuous monitoring and integration of data, dismissals, and other actions taken by the clinician this technology is able to learn how to eliminate false alarms effectively. Additionally, the program can integrate with smart phones or other smart devices in a game-like app, increasing attention and engagement from the clinician.

This technology therefore combats the phenomenon of alarm fatigue on multiple levels, offering a superior, cost-effective solution to the critical issue of alarm fatigue.

Lead Inventor:

Albert Boulanger, M.S.

Applications:

- Addresses and reduces alarm fatigue in clinical settings
• Reduces alarm fatigue in other alarm-heavy settings such as manufacturing, mining, or other high-risk industrial settings
• Can analyze causes and frequency of false alarms
• Can identify problematic monitors with high false alarm rates

Advantages:
• Uses machine learning to monitor machine and clinician behavior, allowing it to adapt as the requirements of patient care change
• Capitalizes on gamification strategies to help keep primary care providers engaged in patient wellness
• Integrates with smart phones and tablets, making it easy for health care providers to adopt this technology.

Tech Ventures Reference: IR CU16145

Inventors

Albert G. Boulanger