Contribution ID: **30**   Type: **not specified**

Wearable Sensors to Evaluate Stress and Enhanced Assisted Rescue Response

Tuesday 28 January 2025 17:12 (12 minutes)

This project focuses on the development of wearable sensors for real-time stress monitoring in firefighters, adapting to the unique challenges they face in high-risk environments. The project is centralized on chest-worn devices due to their superior accuracy in recording physiological signals such as ECG and respiratory rate, essential for assessing stress levels. Research investigates optimal designs, materials and sensor placements to ensure durability, comfort and suitability with firefighting gear. Data processing methods are developed and refined to enable accurate real-time insight into firefighters'vital signs. The preliminary results focus on the effectiveness of the prototypes and guide improvements for robust solutions. The findings aim to support operational safety and health management in firefighting teams.

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