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Wearable Sensors for Enhanced Assisted Rescue Response

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Firefighters operate in adverse and hazardous conditions, facing smoke, toxic gases and high temperatures, and risking physical exhaustion and emotional stress. Additionally, connectivity issues often hinder timely risk and health assessments, as well as the management of teams and resources, compromising the efficiency and effectiveness of firefighting strategies.

This project focuses on enhancing firefighters' health and performance by proposing innovative approaches that integrate physiological and environmental sensors with intelligent data analysis. The goal is to develop wearable sensors tailored for firefighting environments for real-time monitoring and to create an algorithm to detect correlations between self-reported physical fatigue and physiological metrics, eventually allowing the implementation of an automated alert system for risk prediction using machine learning.

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