

appropriate security guard and generate MQTT message, in all the experiments, it does not exceed 1 second.

VI. CONCLUSION AND FUTURE WORK

According to the achieved results, the proposed solution is usable for its purpose under certain performance limitations (such as number of processed frames or measurements per second). Moreover, it relies on both open hardware and free software, being definite and desirable advantage for such systems.

In future, it is planned to experiment with various deep learning and computer vision frameworks for object detection on Raspberry Pi in order to achieve higher framerate. Moreover, we would like to extend this solution with environment sensing mechanisms for adaptive building air conditioning and ventilation airborne protection in order to reduce the spread of coronavirus indoors [4, 8, 24], especially during summer. Furthermore, we will consider the implementation of mechanisms for transparent face shield detection. Finally, the ultimate goal is to integrate the system presented in this paper with our framework for efficient resource planning during pandemic crisis [25] in order to enable efficient security personnel scheduling and mask allocation, together with risk assessment based on statistics about respecting the safety guidelines and air quality.

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