# Fatigue Detection of Air Traffic Controllers

*AS Silva#, N Wedasinghe*

*Department of Computer Science, Faculty of Computing General Sir John Kotelawala Defence University, Sri Lanka*

**Abstract.** The occurrence of airplane accidents in the air and on the ground, level is very phenomenal and the main reason to such incidents is human error, the errors and mistakes of pilots, air traffic controllers, crew members, ground handling crew etc. This research is mainly focused on the fatigue of Air Traffic Controllers and the detection fatigue levels of Air Traffic Controllers to ensure the Aviation Safety and Security. This research is followed by an implementation of a system for fatigue detection of Air Traffic Controllers for the Civil Aviation Authority Sri Lanka (CAASL) with the guidance and technical support of the Aeromedical and Aeronautical Units of the Civil Aviation Authority Sri Lanka. This system consists of a CNN model to capture the face of the Air Traffic Controller in order to detect the alertness and followed by a standardized questionnaire to detect the fatigue level of the Air Traffic Controller. The testing and evaluation of the system was done with the involvement of 50 currently working Air Traffic Controllers.

***Keywords*:** *Deep Learning, Convolutional Neural Network, Fatigue Detection*