Review

The goal of the work is to determine the existence of a correlation between the psycho-emotional state of a person and the IAQ index.

In the work student has reviewed the theoretical aspects of convolutional neuron nets, such as architecture of convolutional layers, research a convolutional equation and observed most common metrics in Computer Vision. Also the student attentional aspects of solving the problems of object detection and provide mathematical basis of Intersection over Union (IoU) metric. There was studied several types of most common computer vision approaches such as YOLOR and Scaled-YOLOv4. The student analyses advantages and disadvantages this two architectures and make a conclusion that Scaled-YOLOv4 is the best choice to this research. In experimental part of the research was collected data by over 17 experimental days. During this time was obtained 129.5 hours of video from and 55634 records of sensor values. Sensors records were converted to the IAQ index handly by the formula which was derived based on the law of the ideal gas equation and the Magnus equation. There was obtained that 52.5% of the experimental data were made in medium quality air, 25.2% in low quality air, and 22.3% in high quality air. Video data was split by frame and took every 30th frame. Video framing was performed by an open-source tool from DVDVideoSoft. In this research use a binary classification of human emotional states in this study: positive and negative. For the positive state identified such behavioral markers as: Sincerity, Consideration of the decision, Benevolence, Interest. For the negative state we identified the following markers: Feelings of self-blame, strained perceptions of the situation, Defence or protection, Fatigue or emotional or physical tension, Desire to distance oneself from one's surroundings. For each behavioral condition identified unique nonverbal signs and began to hand mark up the data. Manual partitioning of the data is done using the conditionally free Roboflow Annotate tool.

At the moment, research is at the stage of manual markup of images based on nonverbal signs.

The student completed all the tasks at a high level and achieved the goal. During the practice, he showed an independent and responsible approach to solving problems.  
The work deserves a 5 (С) rating.