

## Engagement Analysis Using DAiSEE Dataset

**Authors :** Naman Solanki, Souraj Mondal

**Abstract :** With the world moving towards online communication, the video data store has exploded in the past few years. Consequently, it has become crucial to analyse participant's engagement levels in online communication videos. Engagement prediction of people in videos can be useful in many domains, like education, client meetings, dating, etc. Video-level or frame-level prediction of engagement for a user involves the development of robust models that can capture facial micro-emotions efficiently. For the development of an engagement prediction model, it is necessary to have a widely-accepted standard dataset for engagement analysis. DAiSEE is one of the datasets which consist of in-the-wild data and has a gold standard annotation for engagement prediction. Earlier research done using the DAiSEE dataset involved training and testing standard models like CNN-based models, but the results were not satisfactory according to industry standards. In this paper, a multi-level classification approach has been introduced to create a more robust model for engagement analysis using the DAiSEE dataset. This approach has recorded testing accuracies of 0.638, 0.7728, 0.8195, and 0.866 for predicting boredom level, engagement level, confusion level, and frustration level, respectively.

**Keywords :** computer vision, engagement prediction, deep learning, multi-level classification

**Conference Title :** ICCV 2022 : International Conference on Computer Vision

**Conference Location :** Vancouver, Canada

**Conference Dates :** September 22-23, 2022