

DETECT STRESS IN THE IT PROFESSIONALS USING MACHINE LEARNING

ABSTRACT

The main motive of our project is to detect stress in the IT professionals using Machine learning and Image processing techniques. Our system is an upgraded version of the old stress detection systems which excluded the live detection and the personal counseling but this system comprises of live detection and periodic analysis of employees and detecting physical as well as mental stress levels in his/her by providing them with proper remedies for managing stress by providing survey form periodically. Stress Detection System is designed to predict stress in the employees by monitoring captured images of authenticated users which makes the system secure. Our system mainly focuses on managing stress and making the working environment healthy and spontaneous for the employees and to get the best out of them during working hours. By using Image Processing, Machine Learning, Python.

The IT profession is known for its high-stress environment, leading to burnout, decreased productivity, and increased turnover rates. Early detection of stress can help mitigate these negative consequences. To achieve this, a multimodal approach is used, combining physiological signals such as heart rate, skin conductance, and facial expressions with psychological signals like self-reported stress levels and personality traits. The results show that the proposed ML model can accurately detect stress in IT professionals with an accuracy of 92.5%, demonstrating the feasibility of using ML techniques to detect stress in this profession.

Keywords: Analyze, Live Detection, Kaggle, Determine, Accuracy

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