Monitoring System for Underage Smart PhoneUsers

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Abstract

In todays world, it is very common among children to use a smartphone or a handheld digital device such as a tablet to entertain themselves and as a medium of socializing with people easily. The COVID-19 pandemic forced many people to stay in their homes and rely on these digital devices to do their day-to-day work and communication. The latter caused the increase in reliance on digital devices to acquire information about the outside world and as a source of entertainment. This new tendency increased the likelihood of children being exposed to pornography, cyberbullying, cyberstalking, excessive gaming, sexting, and behavioral traits related to narcissism. These habits caused many children to develop psychological and physiological illnesses, which affected them in the short term and, for some, which affected them and their families in the long run, such as suicide. Our research proposes to constantly monitor behavioral patterns such as this, notify the relevant individuals, and prevent the children from being prone to such ill fates. According to the findings, using machine learning and natural language processing, sexting, phonographic words, and Cyberbullying can all be recognized with pinpoint accuracy. Also, by using two machine learning models, depression and anxiety are detected with an accuracy of 0.84 and 0.86. To prevent and analyze computer vision syndrome caused by improper face- screen distance. An image processing-based algorithm is used to measure the distance from face to screen, and results are narrowed down to an accuracy of 1 inch.

Keywords

Data Extraction, Eyesight Problems Detection, Image Processing, Abusive Word Usage, Natural Language Processing, Machine Learning, Behavioral Changes Analysis