

**UNIVERSITY OF
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**INFORMATICS
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INFORMATICS INSTITUTE OF TECHNOLOGY

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UNIVERSITY OF WESTMINSTER (UOW)

MSc in Advanced Software Engineering

Terms of Reference

For

**Mental health companion with emotion recognition
using text-oriented analysis**

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Abstract.

People around the work are more likely to undergo stress situations today. Living with lot of struggles has the possibility of the polluting a person's entire well-being at a great risk. Most of the studies has proven that employees and professional are victims of depression.

Life might get very difficult as go on and maintaining work life balance is hard. Freedom in life will be entitled with the freedom of work. Data collection has done through a survey and survey showed highest stressed people's percentage within employee category. Today psychological stress has become topic as more individual take life threatening decisions as they couldn't overcome from these. Since data is more biased to employee domain, evaluation has been set on to employees.

Mental health companion by emotion recognition using text-oriented analysis is novel technology which addressing fall backs of exiting techniques. Exiting traditional methods are failing due to in accurate information from patient and diagnosis hard. This is happening because people tend not share their personal feelings or show their actual emotions to outsiders. Apart from this fact, people will not go for psychiatrist for minimal situations. Rather going to them, they seek for online support or self-care. Therefore, if machines could diagnose and treat people when they are going through minimal stressed situations is very useful. Exiting system only consider about written, oral or facial expression to do predictions. But the contents available in social media platforms are very much useful nowadays.

Application is built with large data set collected from 150+ people different thoughts during different scenarios. Apart from those data twitter data also collected to improve the data set. Mainly human has happy and Sad emotions. Any emotion is either fully or partially fall in two these categories. When consider about positivity and negativity, it's also has an impact on the emotion of the text. By considering all these factors, positive/negative and happy/sad components will be considered to get final prediction of the text. After finalized factors, deciding a model to predict these values according to the text is crucial. Today most trending machine learning approach is ensemble models. According most of the research, linear svm, linear regression and multinomial naïve bayes classifier are accurate for semantic analysis. Therefore, all these 3 models concatenate together and take final prediction. Final prediction is either perfect, stressed, or average.

Keywords: Mental Healthcare Companion, Machine Learning, Ensemble Models, Social media,