We are in the business of preventing suicide – would you like to help?

Background
Suicide is a global challenge accounting for nearly 1 million deaths per year with an additional 10 million attempts. It is the leading cause of death in some countries and age groups, inflicting enormous emotional distress for relatives and close ones but also substantial costs on society.

Suicide is strongly connected to depression and it is for depressed patients most preventive measures are made. Over the years, suicide prevention methods and strategies have been researched to become more effective, but the diagnostic tools have remained limited to interviews with patients. This is a challenge for a clinician to standardise, interpret and understand what the communication means in terms of suicide risk. What Emotra can offer is the EDOR®-test that is an objective diagnostic tool for assessing suicide risk.

Our solution
EDOR stands for Electro Dermal Orienting Reactivity and is a test that is made at the clinic. It identifies patients that are hyporeactive. It has been shown that there is a correlation between a patient being hyporeactive and increased risk for suicide and violent suicide attempts.

Data is obtained by analysing biometric data output from electrodermal responses when using a standardised and calibrated tone sequence as stimuli. Biometric data as reaction curves are transferred to the Emotra cloud, analysed and reported back to the clinic. Analysis is made on responses to the tone stimuli and follows how patients react. Those who stop reacting quickly, are hyporeactive and more vulnerable to suicide and suicide attempts. It is an immediate and non-verbal marker that is independent from age, gender and the interview results.

Description of the problem
Analysis of these reaction curves is a manual process incorporating mathematic tools as support. It is a standardised analysis process that can be done after some training. However, as Emotra now starts to gain customers, volumes will increase and requirements on how fast we can return analyses will tighten. In short, we need a secure and rational analysis setup using more powerful tools than what is at hand today.

Scope
Due to that Emotra has been engaged in research for many years and a recent large multi-centre study, about 2500 reactivity curves have been analysed. This is the data source that will serve as a basis for the assignment. The assignment entails:

- Review of different machine learning methods including mathematical modelling to address the problem
- Given the quality, structure and volume of data, select the most suitable method or build a model
- Test and verify functionality

Depending on restraints and the nature of data and analysis, we can accept a solution that can cover the majority test cases. It is possible that some cases will still need a manual approach.
About us
We are a small medical technology company in Gothenburg with a history in Swedish research and innovation that recently started its commercialization journey. Information about the method and our company can be found on the Emotra website.

You are more than welcome to contact us to learn more about the challenge we need addressed and get a better understanding of who we are. There is also additional documentation such as scientific references that could be of interest.

Website: [www.emotra.se](http://www.emotra.se)

Contact

Claes Holmberg  
President, CEO  
Tel: +46 708 25 45 47  
claes@emotra.se

Daniel Poté  
VP Global Marketing  
Tel: +46 73 234 41 93  
daniel@emotra.se

Lars-Håkan Thorell  
Founder, Research and Development  
Tel: +46 73 395 31 20  
lars@emotra.se