

# Early identification of suicide ideation

Arantza Casillas, Alicia Pérez Olatz Pérez, Maite Oronoz  
IXA Group

Contact: [maite.oronoz@ehu.eus](mailto:maite.oronoz@ehu.eus)

**Description:** Suicide is, within preventable causes of death, on the top list within teenagers. Watching and preventing suicide is a social concern. An arising research question is related to the traits conveyed by the language in correlation with mental health: Can we detect signs in the messages that could lead us to detect potential risk of suicide? This question is aligned with arising initiatives on early detection of suicide ideation in social media<sup>1</sup>

**The aim of this project** get used with deep learning techniques in order to build a prototype able to assess suicide ideation and provide the expert with the text motivating that assessment.

## Goals:

- Massive data crawling from social media e.g. Twitter
- Predict the level of suicide ideation
- Given a series of posts, in a time-series, early detect the trend towards suicide
- Show, graphically, the parts of the message that motivated the prediction provided and, with these parts, build a lexicon connected with suicide-ideation

**Learning outcomes:** the student will acquire background in medical text mining reinforcing the following areas:

- Big data processing
- Deep neural networks
- Transformers
- Medical entity recognition
- Explainable Artificial Intelligence

**Language:** this work can be carried out in English, Spanish or Basque.

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<sup>1</sup>Find out more initiatives joining forces to early detect suicide ideation:

- <https://www.kaggle.com/nikhileswarkomati/suicide-watch>
- <https://hal-lirmm.ccsd.cnrs.fr/lirmm-01633317>