

Overview

Number of students: Two (2)

Promotor: Prof. Bart Vanrumste

Daily Supervisors: Ir. Chetanya Puri

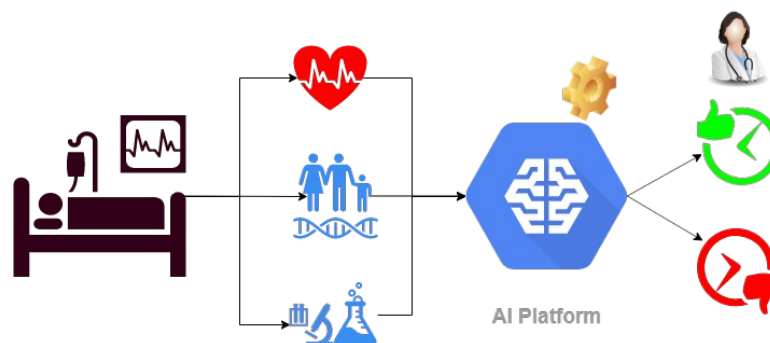
Keywords: time series, machine learning, medical classification

Technologies: early prediction, clinical analysis, machine learning, deep learning

Project Description

Sepsis is a life threatening condition caused by body's response to an infection and can cause serious organ dysfunction. In the United States, over 33% of the people that die in hospitals have sepsis ([CDC](#)). Early detection and antibiotic treatment of sepsis are critical for improving sepsis conditions, where hourly delays are associated with roughly an 4-8% increase in mortality ([Kumar et al., 2006](#)). Thus, there is need to devise techniques that can help detect sepsis using physiological data.

In this project, students will be developing algorithms based on machine learning to automate the identification of patient's risk to sepsis as early as possible with best case being before clinical recognition. For this purpose, a combination of hourly vital sign summaries, lab values, and static patient descriptions will be used from patients admitted to hospitals. The labelled-data in this study comes from ICUs in three different hospitals and is publicly available ([link](#)).



High-Level Requirements

This thesis must comply with the following requirements:

- Knowledge of MATLAB/Python Programming
- Basic Knowledge of signal processing.

For more information, contact

Chetanya Puri (chetanya.puri@kuleuven.be)