



Sepsis Here We Come!

Required skills: desire to learn and change the world in the process!

Background

This disease may have a higher fatality rate due to late diagnosis and inconsistent administration of well-known treatments. We can save lives with early recognition and improved treatment. You can review more details on Sepsis on this CDC link: <https://www.cdc.gov/sepsis/basic/index.html>

Objective

There are two projects for consideration. The first one involves developing an initial screening / early diagnosis tool with an acceptable false alarm rate. The envisioned solution can be used by the patient at their residence and/or by care providers even before an ambulance might arrive. When the ambulance arrives is referred to as the first medical contact. The concept is to develop a smart app that can receive the required inputs either from other instruments and devices and/or the user can manually provide. The main output would be probability of Sepsis infection and recommended actions. This screening tool may support and/or enable remote access and intervention from clinicians.

The second one is to develop the learning and reasoning during the emergency department and hospital treatment phases. The concept is to first collect the data in an open loop setting (treatment and symptoms), develop the inference logic, and ultimately run in a closed loop mode where the treatment is updated/modified to yield the desired physiology in the patient that are indicative of improving health.

Both projects will involve both hardware and software developments with the latter being more dominate. The team would be expected to work very closely with the medical staff and may involve experimentation and data collection at the Hopkins hospital.

The sponsor for these project is a startup founded by Dr. Jim Fackler at JHMI.