

CS461 Problem Statement

Brian Huang

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Currently to check for Ebola doctors must use contact sensors such as thermometers, which is slow and can potentially infect them as well as other patients. With a large volume of people this method is extremely inefficient and can potentially increase the spread of the disease to other people. People who are infected with the Ebola virus have elevated core body temperatures, which is easy to detect using a contact sensor. Since Ebola is easy to detect with a thermometer why risk infecting care workers by having them take patient data. The key next step to this problem is automation. This project looks to solve that problem.

The goal of this project is to build a machine in collaboration with Medecins Sans Frontieres that can detect signs of ebola with a contact sensor. This allows for less contact with the doctors, reducing risk for any unnecessary infection. Using a machine to detect for infection will also increase patient throughput as well as freeing up doctors to focus on other pressing matters. If this machine is successfully implemented and put into practice, many hospital's overall efficiency and effectiveness will improve.

The machine will be built by two different capstone groups at Oregon State University. The physical sensor system will be designed and created by the MIME capstone team, while the software will be programmed by the Computer Science capstone team. The goal of the software is to create a model that can predict the patient's core body temperature based on the data that is gathered by the stand sensor.