



## THE PROBLEM

In Ontario, Canada the average wait time in hospital Emergency Rooms is 16.3 hours. In times of pain and fear, it can be difficult to understand the severity of your problem; therefore many individuals tend to default to emergency rooms, even if their condition would be treatable in urgent care or by their family doctor. This results in immense hospital overcrowding, which increases waiting times endangering the lives of those in critical condition, who need immediate care.

### mPath

When you are in the moment of fear where you or your loved one is in pain, mPath is there for you to take the weight off of making the decision of where to go. The application guides you in making the right decision for your healthcare needs based on your symptoms and the severity of your condition.

## THE PROCESS



Based on your age, gender, medical and family history, as well as the severity of your symptoms, mPath's proprietary machine learning model helps direct you to a care facility such as a family doctor, urgent care walk in clinic or a hospital that is right for your condition.

## TECHNICALITIES



We use a semi-supervised learning model for full freedom in data analysis. Using Natural Language Processing, we filter out the parts of speech in the string values. Later, we convert ID/categories into hot vectors, and then integrate word2vec for string clustering. Finally, when all the data types are numbers, we run them through a MLP, which outputs an intelligent prediction (algorithms are subject to change).

### System Structure



Symptoms, Severity and Family History



Hospital, Walk in Clinic or Family Doctor



Ideal locations

## OUR IMPACT

mPath's webapp addresses the hospital wait times from the root cause. The application allows individuals to understand which level of care facility their condition requires based on severity. This would allow us to decrease the amount of people currently going to hospitals when not needed, resulting in a domino affect of reducing wait times and allowing those in more critical conditions to receive care much faster saving millions of lives,