1. Introduction

1.1 Background

Traffic accidents is one of the world's leading cause of death and injuries, on top of causing significant monetary losses due to damages to vehicles and public property. When traffic accidents occur, the severity of an accident usually determines the amount of time needed to clear the scene. Traffic accidents cause traffic jam. When commuters are stuck in traffic, man hours are lost, resulting in loss productivity and ultimately money. When no injuries are involved in an accident, the vehicles are towed away and traffic returns to normal in a reasonable amount of time. Things are not as simple when injuries are involved. Civil defence or firefighters may be needed to extract victims from the vehicles while paramedics are required on scene to treat the injuries before transporting the victims to the hospital, hence more time is taken to return traffic to normal. The severity of a traffic accident, injury versus no injury, thus determines how long it is needed for traffic to return to normal.

1.2 Problem

In a traffic accident, severity of a traffic accident can be influenced by the type of collision, location of the accident, number of people involved, number of vehicles involved etc. External factors such as weather, road conditions and light conditions are factors that contribute to the severity. This project aims to predict if a traffic accident is severe or not, where severity is determined if the accident involves at least an injury.

1.3 Interest

Local governments and city councils would be interested in this study. Firstly, by understanding the factors involved such as road conditions, severe accidents can be prevented. Secondly, when a traffic accident occurs, the city can optimize resources to be deployed on scene based on the predicted severity of the accident. Thirdly, the predicted severity of an accident can also be used as an indicator to gauge the time needed for traffic to return to normal, to plan for road diversions to ease traffic.