IBM Capstone Project: Car accident severity

**Introduction**

**Background:**

**Annual Global Road Crash Statistics**

* **Approximately 1.35 million people die in road crashes annually, on average 3,700 people lose their lives every day on the roads.**
* **An additional 20-50 million suffer non-fatal injuries, often resulting in long-term disabilities.**
* **More than half of all road traffic deaths occur among vulnerable road users—pedestrians, cyclists, and motorcyclists.**
* **Road traffic injuries are the leading cause of death among young people aged 5-29. Young adults aged 15-44 account for more than half of all road deaths.**
* **On average, road crashes cost countries 3% of their gross domestic product.**

**Annual United States Road Crash Statistics**

* **More than 38,000 people die annually in crashes on U.S. roadways. The U.S. traffic fatality rate is 12.4 deaths per 100,000 inhabitants.**
* **An additional 4.4 million are injured seriously enough to require medical attention.**
* **Road crashes are the leading cause of death in the U.S. for people aged 1-54.**
* **The economic and societal impact of road crashes costs U.S. citizens $871 billion.**
* **Road crashes cost the U.S. more than $380 million in direct medical costs.**
* **The U.S. suffers the most road crash deaths of any high-income country, about 50% higher than similar countries in Western Europe, Canada, Australia and Japan.**

**Target Audience:**

**1. The Seattle administration: By targeting areas prone to areas to speeding accidents, interventions such as speed bumps, stop signs etc. can be put in place to reduce accidents.**

**2. Car Insurance Companies: Areas where parked cars are prone to getting damaged. Owners in those localities may be asked to pay more premium on their car insurance.**

**3. Health-care workers and emergency services in Seattle: By having enough data on the crash one can predict the severity and therefore take action more quickly potentially saving lives.**

**Practical Uses of the Model:**

* **Speed reduction measures in areas prone to accidents due to speeding**
* **More accurate calculation of risk premiums by Car Insurance companies**
* **Proactive actions taken by Health-care by predicting severity of the accident.**

**Future Use Case: AI in self-driving cars can use such models to assess risk of accidents and change routes or ask the driver to be vigilant during auto-pilot.**