**Example of Using the Model to Predict Accident Severity**

Suppose that we want to use the model in order to predict accident severity for the following scenario:

Number of Vehicles Involved: 4

Weather Conditions: Rainy (as encoded)

You would then call the predict severity function from your code in order to make this prediction:

# Example prediction

Vehicles involved = 4 # Number of vehicles

weather conditions = 1 # Rainy weather (encoded)

# Predicting accident severity

Predicted severity = predict severity (vehicles involved, weather conditions)

Print ('Predicted Accident Severity for 4 vehicles in rainy weather:', predicted severity)

**Output Explanation**

The output will be some sort of predicted severity score regarding the accident. This could mean, depending on how the model was trained, a certain level of severity-0 being minor, 1 being moderate, and 2 being severe, among other representations.

**Advantages of the Model to Traffic Accident Analysis and Prevention in Underdeveloped Nations**

1. **Data-driven decision making:** The model would provide a quantitative basis for interpreting the variations in the severity of an accident due to various conditions, such as weather and number of vehicles, which would serve as inputs for helping local governments make appropriate decisions regarding traffic management and the safety policy. Policy applications will be direct in nature, ranging from resource allocation to targeted interventions.
2. **Resource Allocation:** Accident severity prediction can be used by authorities in prioritizing resource allocations concerning emergency services or even road maintenance. This would give proper response times and save lives.
3. **Targeted Interventions:** By analysis may come out the critical conditions that originate severe accidents in terms of weather conditions or high volumes of traffic. Therefore, it can allow interventions on some factors: road infrastructure improvement, better signage, and more restrictive traffic regulations in case of adverse weather conditions.
4. **Awareness and Education:** This model can be used to generate the needed awareness among the people regarding the risks involved w.r.t a particular condition. For example, if this model gives out that rainy weather aggravates an accident in terms of its seriousness, proper campaigning can be done to make people aware and drive more safely in those conditions.
5. **Longitudinal Studies:** Thus, the model can be updated and fine-tuned with the continuous collection of data. Longitudinal studies in tracking the effectiveness of the implementation of various safety measures and changes in traffic patterns are hence possible.
6. **Infrastructure Improvement:** The analysis of the pattern of accident severity helps authorities to identify areas that are at very high risk and hence enables investment in better infrastructure, such as improved road surfaces, better lighting, and more effective drainage systems, in order to minimize accidents.
7. **Policy Formulation:** The key messages arising from the model can be used to aid policy-makers in drafting rules relevant to improving vehicle safety standards, driver training programs, and enhancing public transportation.