#### **ABSTRACT**

The project is about enhancing car insurance risk assessment and claim prediction using machine learning.

Basically, with the goal being able to categorize customers with respect to their risk profile and predict the claim likelihood over a 6-month duration.

Key Highlights

Risk Assessment Module: Developed a machine learning module that would look into the customer's age, location, and driving history to give a risk score for each.

Classification Based on Risk Score: The classification of customers based on the score into low, medium, and high risk.

Claim Prediction Model: Utilized machine learning to predict the likelihood of claims within six months with data-driven insights from historical claim data.

Issues Addressed

Data Limitations: Difficulty in sourcing data from Egypt, limited data that affect model accuracy, and poor data quality, which therefore requires cleaning.

Model Limitations: There could be inaccuracy in models developed.

Computational Resources: Demanding high computing power to train and deploy complex models.

Future Work Recommendations

Enhanced Data Collection: In collaboration with the telematics companies, data should be collected in real-time on driving patterns with a lot more emphasis on variables like speed and braking.

Leverage Advanced Features: Use weather data, including snowfall, for enabling risk assessment. Risk scores can thus be suitably adjusted.

Deployment and Integration: Develop a dashboard (web-based) where insurance agents may enter data concerning their customers to get results related to the immediate prediction of the risk and claims.