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**SEATTLE**

# **PREDICTING CAR COLLISION SEVERITY**

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# **COLLISION SEVERITY PREDICTION IS VALUABLE**

Collision severity prediction based on conditions could help citizens be more careful and reduce collisions in the city of Seattle.

Seattle Government could use the information to create safety legislations or safety campaigns.

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# DATA ACQUISITION AND CLEANING

Collision data from 2004 to 2020 retrieved from SDOT.

Raw data contains 38 variables and 194673 samples.

Cleaned data contains 9 features and 113740 samples.

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# METHODOLOGY

Classification algorithms chosen

K-Nearest Neighbors

Decision Tree

Logistic Regression

Support Vector Machine

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# RESULTS

Algorithm	F1-Score	Jaccard	Log-Loss
KNN	0.61	0.62	NA
Decision Tree	0.71	0.71	NA
Logistic Regression	0.70	0.71	0.54
SVM	0.71	0.71	NA

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# CONCLUSION

Machine Learning models can predict the severity of collisions.

The K-Nearest Neighbors algorithm has room for improvement.

Decision Tree, Logistic Regression, and Support Vector Machine are the best models to predict severity of collisions and could be useful for Seattle Government.

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