

The background features a dark grey map with white lines representing streets and building footprints. On the right side, there is a vertical rectangular area filled with a white grid of squares, some of which are missing, creating a pattern that resembles a building facade or a data visualization.

Daisy Intelligence Hackathon

Track 3: Geography & Space Challenge

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Problem Statement

Bicycle theft is a serious problem in Toronto, since over 4000 bikes were stolen in 2020 (a 3x increase from 2014)

Our Solution:



bicyc-L

...because losing
your bike is an L



What is bicyc-L?

“bicyc-L uses a predictive Machine Learning model to rate the City of Toronto’s bike racks as ‘safe’ or ‘unsafe’, to provide riders with guidance on secure parking locations”

Building bicyc-L

Datasets

The TPS' Bike Theft and Toronto's Outdoor High-Capacity Bike Parking datasets were combined.

Libraries

Numpy, Pandas, and Regex were used for data manipulation. Knime was used to create and train the model.

Model

bicyc-L uses a generalized linear regression model due to its simplicity and accuracy.

Impact of bicyc-L



Fewer Incidents

Less bicycle theft
due to safer
parking locations



Fewer Police Resources

Resources go to
problems other
than bike theft



Fewer Worries

Theft will be less
of a concern to
bike riders



More security

Cyclists can be
confident that
their belongings
are secure



More savings

New bikes do not
have to be
purchased as
often

What's next for bicyc-L

Expanded Cities & Towns

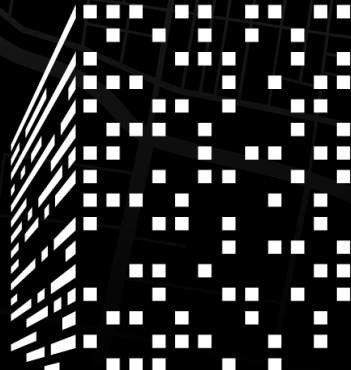
Areas outside the City of Toronto to be included

Complete Front-End

Front-end application is to be developed

Location-based Recommendations

Users be given recommend racks based on location





Thank You!

