University of Calgary

ENGO 651: Advanced Geospatial Topics

Final Project

Fuellytics: Real-Time Vehicular Fuel Consumption and Emissions Monitoring

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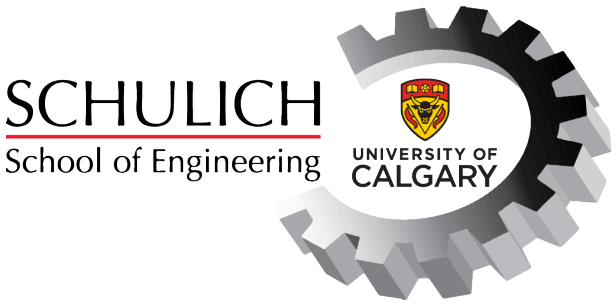

1 Executive summary

2 Problem statement

According to the International Energy Agency, transportation accounts for almost one-quarter of global greenhouse gas emissions, and within that, road transport is responsible for the largest share of emissions [1]. Reducing carbon emissions from vehicles is crucial to mitigate the harmful effects of climate change. The burning of fossil fuels in vehicles produces carbon dioxide (CO_2), which is the most prevalent greenhouse gas contributing to global warming. CO_2 emissions from vehicles are particularly harmful because they are released directly into the atmosphere, where they trap heat and contribute to the Earth's rising temperatures.

3 Literature review

4 Solution summary

5 Architecture

5.1 Design rationale

5.2 Architecture description

5.3 API

5.4 Sequence Diagram

5.5 Data models and JSON encodings

6 Results

7 Lessons learned

8 Conclusion

9 References

[1] https://www.iea.org/reports/transport-energy-and-co2