

# MACHINE LEARNING BASED VEHICLE PERFORMANCE ANALYZER

## TEAM MEMBERS

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# PROBLEM STATEMENT

Predicting the performance level of cars is an important and interesting problem. The main goal is to predict the performance of the car to improve certain behaviours of the vehicle. This can significantly help to improve the system's fuel consumption and increase efficiency.

# EXISTING SOLUTIONS

- **Enhancing Performance Prediction Robustness by Combining Analytical Modeling and Machine Learning**
- Design of a Performance Analyzer for Electric Vehicle Taxi Systems
- SPRINTA: SPRINT PERFORMANCE ANALYZER BASED ON ACCELEROMETER DATA
- Innovative Analytic Test Vehicle Integrated into Automated Indoor Braking Analyzer
- **Electric Vehicle Performance Analyzer-**  
<https://www.pestingers.net/pdfs/other-computers/circuit-cellar/1999/circuit-cellar-110.pdf#page=14>

# INFERENCE FROM THE EXISTING SOLUTIONS

1. From a Taxi performance analyser we went through :

An event tracker, a stream handler, object interfaces, and strategy integrator, the analysis procedure can measure the performance of a dispatch and relocation strategy in terms of dispatch latency, customer waiting time, and the number of daily fast charging operations

1. From a Enhancing Performance Prediction :

we explore several hybrid/gray box techniques that exploit AM and ML in synergy in order to get the best of the two worlds. We evaluate the proposed techniques in case studies targeting two complex and widely adopted middleware systems: a NoSQL distributed key-value store and a Total Order Broadcast (TOB) service.

1. From a EV Performance analyzer :

Design of the analyzer and cover both the microcontroller and PC software (both in C). The micro's software was developed with a Hitachi C compiler, and the software for the PC was developed with CVI (C for Virtual Instrument) from National Instrument.