LESS IS MORE, MORE OR LESS

VITESCO TECHNOLOGIES HACKABURG 2023
CHALLENGE "SUSTAINABLE MOBILITY

December 2022 - two Vitesco Technologies e-cars drive through a snowy landscape. They have a mission: the e-Nordkapp Challenge involves 7000 km of distance covered in 19 days by two prototype vehicles. The electric motors are uniquely equipped with additional temperature sensors, which help us protect the components from overheating. In series production, however, we want to do without the sensors for reasons of cost and sustainability. Your task is to find a solution for this problem.

Task and processing

You will now receive a data package of a route section for processing the task. The task is to analyze, correlate and visualize the data of the route section. For this you can use an AWS account, which you can activate at the Vitesco Technologies booth in the foyer. The account will allow you to use various AWS services to analyze the data. There will be a workshop on Friday 14-15.

Evaluation criteria

We evaluate:
> Your solution in terms of feasibility in a production vehicle
> The robustness of your solution against production-related scattering of other sensor values
> The resource consumption of your solution

Auxiliary means

In order to be able to work on the task, we provide you with the following tools:
> Prototype vehicle data package
> 1x AWS account per team (to be picked up and activated at the Vitesco Technologies booth)
> Workshop Friday 2pm-3pm on using AWS services (appropriate to the assignment).
> & Energy Drinks

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Question #1
A: Sensor value determination

A0: How could you determine the sensor value ?

Remember: The solution must only use the data measured so far - but no data from the future !

Question #2
B: Robustness

B0: How well will your solution work in another vehicle of the same series ? The input sensor values might behave slightly different there. Check your solutions for such variations.

Question #3
C: Resource conservation

C0: We don't have a data center in a vehicle yet. Either you limit the resource consumption of your solution or ... do you have another idea ?

YOUR VITESCO TECHNOLOGIES TEAM