

AI-DRIVEN BATTERY MANAGEMENT SYSTEM FOR ELECTRIC VEHICLES

Computing the SoC (State of Charge) for electric vehicles batteries using AI/ML technology can enhance its Safety and optimize performance & reliability over time.

WHAT IS IT & HOW IT WORKS?

- ForthLite software platform relies on the AI extension of StellarStudioAI development environment from STMicroelectronics and was developed by Bluewind thanks to its expertise in AI, Automotive and Safety sectors. It computes in real time the SoC of the Li-Ion battery for electric vehicles.
- The Stellar family of Microcontrollers caters to the increasing Safety and Cybersecurity requirements of Automotive applications.
- The model was trained on real data collected from a running car and subsequently deployed and tested on the SR5E1-EVBE7000P evaluation board.



SENSORLESS

Relying only on the existing data from a car's ECUs, such as battery temperature, voltage, and current, eliminating the necessity for extra sensors.



PORTABLE

The AI/ML framework can readily be adapted to CPU architectures with limited resources.



ROBUST

The AI/ML model employed could be more resilient to noisy sensors and battery degradation (under investigation).



UNINFORMED

By relying on data, extensive knowledge of Li-ion battery electrochemical models is unnecessary.

