CARISSMA
Institute of Electric,
Connected and Secure Mobility

Technische Hochschule Ingolstadt

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Abschlussarbeit

"Development of semi-empirical and/or data-based models to reduce battery testing time and cost"

Beschreibung:

The process of testing batteries is an expensive and time-consuming process. This process is often accomplished by trial and error. Fortunately, there are test protocols that can be used to validate the design. Typically, performing tests following these protocols can take weeks or months. The aim of this thesis is to investigate ways to speed up the battery testing process. The novelty of this thesis is to propose a model that will reduce the time and cost of testing battery cells. To achieve this goal, the researcher can test batteries in different ways. The researcher will be able to test the battery using high C-rates and develop a data-driven model capable of predicting battery behavior at low C-rates. This would be one of the ways to reduce the time and cost of performance testing. However, the student may also choose to develop models to reduce the time and cost of testing safety, reliability, etc.

Ihre Aufgaben:

- First Phase: Battery cell acquisition. Definition of experiments.
- Second Phase: Model development based on data or semi-empirical.
- Third Phase: Writing the text document of the thesis, representing/presenting the results.

Ihr Profil:

- MatLab or Python experience and knowledge are desirable but not required.
- Confident use of MS Office.
- Ausgeprägte Kommunikations- und Organisationsfähigkeiten.

Interesse? Fragen? – Kontaktieren Sie uns!

Kontakt:

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