

Final Thesis

„Development of Degradation Models for Batteries“ (in cooperation with UFAM)

Topic Description:

This thesis is offered within the DAAD NoPa 2.0 cooperation project 2LIFEBAT. The goal of the project is to build a research network between Brazilian and German universities in the area of solar powered storage systems with second-life batteries. A team from the Federal University of Amazonas (UFAM) is developing mathematical models for the prediction of battery service life in automotive and stationary use. During the final thesis, the focus will be on the development of degradation models and estimators for the prediction of remaining useful life (RUL) and state of health (SoH) using datasets from battery cycling tests. The work will be carried out partly at THI and partly at UFAM. Accommodation and travel costs for a 2-months stay at UFAM in Manaus (Brazil) will be covered by DAAD.

Tasks:

- Battery cycling data processing
- Extraction and selection of health indices
- Application of machine learning to identify degradation models for SoH estimation and RUL prediction
- Writing of technical report (which could be tentatively submitted at a conference)

Your Profile:

- Study of Electrical Engineering, Computer Engineering or Computer Sciences
- Interested in machine learning and data analysis
- Willingness to cooperate and travel internationally
- Fluent in written and spoken English language
- Confident use of MS Office

Are you interested? Please contact us!

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