WIR VERGEBEN EINE

MASTERARBEIT / MASTER THESIS

ENERGIEVERBUNDTECHNIK

In the field of e-mobility and electrical grid

Work title:

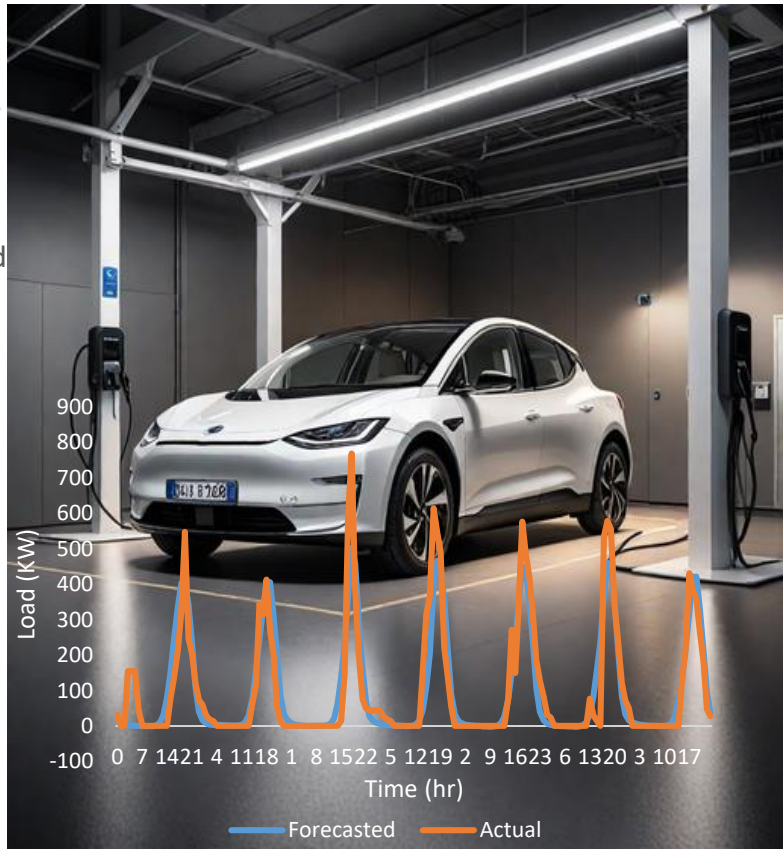
"A comparable data-driven study to find the most robust model for EV load profile forecasting"

Background:

This master's thesis examines various forecasting models to determine the most robust one for predicting Electric Vehicle (EV) load profiles. Additionally, it investigates the required data and the most important factors to understand their impacts on forecasting. In this regard, environmental conditions (temperature and humidity), temporal variables (date of arrival and daily driving distance), and charging strategies are considered as potential input data. The study involves developing different models, such as Long Short-Term Memory (LSTM) and Gated Recurrent Units (GRUs) as Recurrent Neural Network (RNN) models. Other types of models, such as Support Vector Regression (SVR), are also used to enhance the comparative value of this research. By employing programming as a core methodology, this study aims to provide practical forecasts for future EV load profiles. Ultimately, the research aims to identify a model with an appropriate architecture for EV load profile training and forecasting, as well as the factors influencing these forecasts.

Outline of the content:

- Literature review to improve the academic background
- Studying data required for investigating EVs load profile
- Investigating the influence of those data on the load profile by using data-driven strategies
- Examining different models and find the most promised one for this reseach



Requirements:

- Background in Electrical Engineering
- Programming and data analysis skills
- Interest in Electric Vehicles (EVs)
- Motivation to Solve Complex Problems

MONTAN UNIVERSITÄT LEOBEN

Are you interested? contact me

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