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Title:

Leveraging user feedback to optimize the tuning of EVSE models

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Abstract:

The implementation of active sound design models in vehicles requires precise tuning of synthetic sounds to harmonize with existing interior noise, driving conditions, and driver preferences. This tuning process is often time-consuming and intricate, especially facing various driving styles and preferences of target customers. Incorporating user feedback into the tuning process of Electric Vehicle Sound Enhancement (EVSE) offers a solution. A user-focused empirical test drive approach can be assessed, providing a comprehensive understanding of the EVSE characteristics and highlighting areas for improvement. Although effective, the process includes many manual tasks, such as transcribing driver comments, classifying feedback, and identifying clusters. By integrating driving simulator technology to the test drive assessment method and employing machine learning algorithms for evaluation, the EVSE workflow can be more seamlessly integrated. But do the simulated test drive results accurately reflect real-world impressions? This paper compares virtual test drive results with road test results and explores to what extend this unique method can be utilized to improve the EVSE tuning process.

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