Aushang bis zum
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Bachelor/Masterthesis

Subjective Catering Passenger Behavioral Analytics

Airline catering, which includes food and beverage (F&B) services, plays a crucial role in shaping the passenger experience. Many travelers discuss the quality of the onboard F&B services. Excessive catering can result in significant waste, while insufficient catering can lead to unhappy passengers. According to IATA estimates, between $2 billion and $3 billion worth of F&B items are wasted each year. Moreover, the weight of unused F&B items contributes to unnecessary fuel consumption.

To address this issue, solutions can be found in determining optimal catering levels for every flight. The primary challenge is to gather objective data or develop a reliable model. Various concepts exist for collecting data on individual pre-, in-, or post-flight orders, utilizing behavioral analytics, or employing generic route modeling.

In this thesis:

The aim of this thesis is to predict optimal aircraft catering levels based on data available through the check-in process on a boarding pass. Parameters include names, nationalities, genders, ages, and aircraft destination, for instance. Historical ordering of individuals for a world-wide B787 fleet has been logged in a synthetic database. A Machine Learning (ML) model shall be trained using the boarding pass data to predict flight catering level and analyze the prediction quality. In a second step, an airline dashboard to show ordering fleet prediction using acceptable risk levels shall be designed. The dashboard will be integrated into the TU-Darmstadt cabin simulator software environment.

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Organizational:

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