UNIVERSITI TEKNOLOGI MARA

SKINCARE PRODUCT RECOMMENDATION SYSTEM USING CONTENT-BASED FILTERING TECHNIQUE (CBF)

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ABSTRACT

The Skincare Recommendation System aims to improve user experience and reduce the possibility of skin concerns resulting from incompatible selections by addressing frequent obstacles experienced by customers when choosing skincare products. The system evaluates product components and user-specific skin types by utilising the Content-Based Filtering Technique (CBF) which using TF-IDF and cosine similarity technique and provides customised suggestions based on common ingredient compositions. The project's goals are to research CBF, use this method to build a recommendation system, and assess the system's accuracy. The background study highlights the difficulties in choosing skincare products because of ignorance about the right components for various skin types. The approach takes individual skin disorders into consideration with its four major skin types: combo, oily, dry, and normal. Promising methods include content-based filtering and machine learning, which use large skincare datasets to provide customised suggestions. Phases including preliminary investigation, data collection, planning, execution, assessment, and documentation are described in the research methodology. The accuracy, recall, and F1-score metrics are highlighted in the key results, offering valuable information about the system's performance. The system's effectiveness is highlighted in the conclusion, which also shows how CBF implementation may achieve goals and show how the system can completely transform the skincare sector. Overall, the Skincare Recommendation System addresses issues with misinformation and product selection by using CBF to provide individualised skincare recommendations. By highlighting the necessity of continual technological developments and cooperation between customers, skincare specialists, and the industry, the study offers insightful information on skincare recommendation systems. The system's effective deployment shows how much the skincare industry may benefit from its ability to change user experience. The project's outcome depends on the user-inputted products. For instance, the achieved precision is 100%, recall is 70%, and the F1-Score is 82%

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