Frage – Fragrance

Vladislav Kauhanau , Beka Tavartkiladze

e-mail: vladislav.kauhanau441@ens.tsu.edu.ge

beka.tavartkiladze110@sps.tsu.edu.ge

Computer Science. Faculty of Exact and Natural
Sciences, Tbilisi State University

The *Frage* project is a machine learning–based fragrance recommendation system designed to help users discover perfumes that match their personal preferences. With thousands of fragrances available globally, users often face decision fatigue and confusion when trying to choose the right scent. This project addresses that problem by providing personalized fragrance suggestions through an intelligent, data-driven approach.

The system operates by first collecting user input through a short series of multiple-choice questions about fragrance preferences and personality. Additionally, users can rate specific perfumes. These inputs are then analyzed to determine the user's taste profile.

At the core of the recommendation process is the **vectorization** of fragrance notes. Each perfume in the dataset is broken down into its key scent notes, which are converted into numerical vectors. By comparing these vectors using similarity measures (such as cosine similarity), the system identifies and suggests perfumes with similar olfactory profiles. Gender is also considered in the recommendation logic to further personalize the results.

The project is built using Python and various data science libraries including **Pandas**, **scikit-learn**, and **NumPy, CoreMLTools**. The frontend of the application is implemented using **IOS**, providing interactive user interface. The initial version of the app is complete, with future goals including expanding the dataset, improving model accuracy, enhancing UI/UX, and deploying the app for broader user testing.

Frage demonstrates how machine learning and thoughtful data preprocessing can solve real-world problems in niche markets such as personal fragrance selection.