**SKIN SAATHI**

**PROJECT SYNOPSIS**

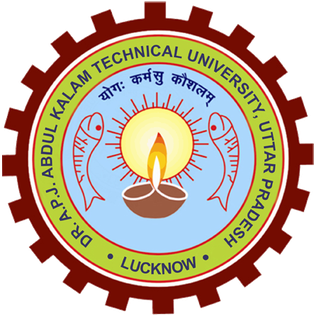
Of Summer Training Project

**BECHELOR OF TECHNOLOGY**

COMPUTER SCIENCE AND ENGINEERING

Submitted

To



**Dr. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY**

**LUCKNOW**

Submitted by

Roll No:- 2300100100209 Name:- Kritika Chaurasia

Roll No:- 2300100100218 Name:- Mahima Tripathi

**UNDER THE SUPERVISION OF**

Dr. Vijay Kumar Dwivedi



**UNITED COLLEGR OF ENGINEERING AND RESEARCH,**

**PRAYAGRAJ**

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Mahima Tripathi

AKTU Roll No- 2300100100218

Phone- 8360966297

Email- mahimatri25@gmail.com

Kritika Chaurasia

AKTU Roll No- 2300100100209

Phone- 9335685210

Email- kritika999215@mail.com

**UNDER THE SUPERVISSION OF**

Dr. Vijay Kumar Dwivedi

UNITED COLLEGE OF ENGINEERING AND RESEACH,

PRAYAGRAJ

**Introduction**

Skin is the largest organ of the human body and plays a vital role in protection, regulation, and overall health. One of the most important aspects of skincare understands an individual’s skin type, as it directly influences the choice of skincare products, treatments, and lifestyle habits. Traditionally, skin type identification is done manually through observation or dermatological consultation, but this process is often subjective and may lead to inaccurate results.

With the advancement of technology, machine learning provides an intelligent and data-driven approach to classify skin types such as oily, dry, normal, sensitive, or combination skin. By analyzing various parameters like oil secretion, hydration levels, sensitivity, and environmental factors, machine learning models can predict skin type with higher accuracy. This project aims to develop a Skin Type Prediction System using machine learning techniques to assist individuals and skincare professionals in making more reliable and personalized skincare decision.

This project aims to design a Skin Type Prediction System that leverages machine learning techniques to provide reliable results. The system will help individuals understand their skin type better and assist dermatologists or cosmetic industries in offering personalized skincare recommendations. Ultimately, this project bridges the gap between skincare and artificial intelligence, contributing to smarter health and wellness.

**Methodology /Planning of work**

**1. Data Collection**

The first step is to collect data related to different skin types. The dataset may include features such as skin hydration, oil levels, sensitivity, texture, age, and environmental factors.

**2. Data Preprocessing**

The collected data will be cleaned and preprocessed to remove any missing or irrelevant values. Normalization and feature scaling techniques will be applied to ensure that all attributes are in the same range for better model performance.

**3. Feature Selection**

Important features that influence skin type will be identified. This step helps in improving the efficiency and accuracy of the model by focusing only on the most relevant parameter.

**4. Model Building**

Various machine learning algorithms such as Decision Trees, Random Forest, Support Vector Machine (SVM), etc. will be tested. The best-performing algorithm will be selected based on evaluation metrics.

**5. Training and Testing**

The dataset will be divided into training and testing sets. The model will be trained on the training set and then evaluated on the testing set to measure its accuracy, precision, and recall.

**6. Implementation / Interface Design**

A simple user interface will be developed where users can input their skin parameters. The trained model will then predict the user’s skin type and display the result.

**Facilities Required**

**Software:**

* Python 3.8 or higher for training the model
* Tkinter library for UI
* Microsoft excel 2010 for storing data

**Hardware:**

* A standard computer or laptop with the capability to run Python and associated libraries.

**Bibliography**

* Python Documentation: https://docs.python.org/3/
* Tkinter Documentation: https://docs.python.org/3/library/tkinter
* Scikit-learn Documentation
* kaggle: https://www.kaggle.com