

# Sakshi Tokekar

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## MedInsure

### Machine Learning Project Documentation

#### Overview

In this project I have developed a web application which predicts the medical insurance cost of an individual based on their age, gender, number of children, smoker and bmi

#### Input/Output

1. **Features:** The input to the model is  $\Rightarrow$  Age, Gender, Number of Children, Smoker and Bmi of an individual
2. **Target:** The output is  $\Rightarrow$  Predicted Medical Insurance Cost

#### Dataset

- Source  $\rightarrow$  <https://www.kaggle.com/mirichoi0218/insurance>
- This dataset consists of 1338 rows.
- There are no null values

age	sex	bmi	children	smoker	region	charges
19	female	27.9	0	yes	southwest	16884.92
18	male	33.77	1	no	southeast	1725.552
28	male	33	3	no	southeast	4449.462
33	male	22.705	0	no	northwest	21984.47
32	male	28.88	0	no	northwest	3866.855
31	female	25.74	0	no	southeast	3756.622
46	female	33.44	1	no	southeast	8240.59
37	female	27.74	3	no	northwest	7281.506
37	male	29.83	2	no	northeast	6406.411

## Steps

1. Gathering data
2. Understanding data
3. Handling categorical values
4. Split features and target
5. Model selection
6. Split train and test data
7. Get train score and test score
8. Predict
9. Deploy the model

## Model

- The concept used here is supervised machine learning → Regression
- Here we have used RandomForestRegressor
- The training score offered is: 97.1 %
- The testing score offered is: 90.1 %

LINK:

<http://sakshitokekar72.pythonanywhere.com/login>




# Pages

## 1. Sign Up Page

A new user has to first sign up by entering their valid email. If the email is valid and exists, then a password will be generated and sent to their respective mail.

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## SIGNUP PAGE

Password will be sent to your mail


[Sign Up](#)

[Already have an account? Login](#)

## 2. Login Up

An existing user has to login by entering the registered email-id and password

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## LOGIN PAGE

[Forgot Password](#)


[Login](#)

[New User? SignUp](#)

### 3. Forgot Password

If an existing user forgets their password then they always generate a new password by clicking on the forgot password. This page will take their email id, check if they are a registered user and then send a new password on the registered email.

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### FORGOT PASSWORD PAGE

New Password will be send to your mail

[Back to Login](#)

### 4. Home Page

This is the page the user will be redirected to, after login where the user can see the past predictions made and go for further predictions

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[Logout](#)

### Home Page

#### Find Medical Insurance Cost

#### Past Predictions

Age	Gender	BMI	Children	Smoker	Charge	
18	female	31.92	0	no	4526.01	<a href="#">Delete</a>
61	male	33.535	0	no	28782.673	<a href="#">Delete</a>
34	female	45.0	0	no	6599.655	<a href="#">Delete</a>
99	male	34.5	1	no	27340.056	<a href="#">Delete</a>

[Info](#)

## 5. Medical Cost Prediction Page

This is the main page where the prediction occurs. The user has to give valid input and the cost will be then predicted.

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### Medical Insurance Cost Prediction

Age:

Gender: ☐ Female ☒ Male

Bmi:  [Calculate BMI](#)

Children:

Smoker: ☒ No ☐ Yes

**CHARGE: 17664.123**

## 6. BMI Page

If the user doesn't know their BMI then they can quickly calculate their bmi by entering their height and weight

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### BMI Calculator

Height (in m):

Weight(in kg):

**BMI:**