

HUMAN-CENTERED DATA SCIENCE

GROUP 8

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ESTIMATION OF OBESITY LEVELS BASED ON EATING AND LIFESTYLE HABITS



INTRODUCTION & MOTIVATION

- **Target Audience:** General Public
- **Global Trend:** Addressing the rising global obesity rates and its impact on health.
- **Public Health Impact:** Exploring how obesity contributes to chronic diseases like diabetes and cardiovascular issues.
- **Technology Solution:** Introducing our analytical dashboard as an AI tool to empower individuals and health professionals with actionable data.

DATASET OVERVIEW

Dataset
comprises **2,111**
records from
Mexico, Peru,
and Colombia.

Features **17**
diverse attributes
including
demographics,
diet, and physical
activity.

Combination of
77% synthetic
data and 23%
real user data for
balanced
insights.

DATASET OVERVIEW

	Gender	Age	Height	Weight	family_history_with_overweight	FAVC	FCVC	NCP	CAEC	SMOKE	CH2O	SCC	FAF	TUE	CALC	MTRANS	NObeyesdad
0	Female	21.0	1.62	64.0	yes	no	2.0	3.0	Sometimes	no	2.0	no	0.0	1.0	no	Public_Transportation	Normal_Weight
1	Female	21.0	1.52	56.0	yes	no	3.0	3.0	Sometimes	yes	3.0	yes	3.0	0.0	Sometimes	Public_Transportation	Normal_Weight
2	Male	23.0	1.80	77.0	yes	no	2.0	3.0	Sometimes	no	2.0	no	2.0	1.0	Frequently	Public_Transportation	Normal_Weight
3	Male	27.0	1.80	87.0	no	no	3.0	3.0	Sometimes	no	2.0	no	2.0	0.0	Frequently	Walking	Overweight_Level_I
4	Male	22.0	1.78	89.8	no	no	2.0	1.0	Sometimes	no	2.0	no	0.0	0.0	Sometimes	Public_Transportation	Overweight_Level_II
5	Male	29.0	1.62	53.0	no	yes	2.0	3.0	Sometimes	no	2.0	no	0.0	0.0	Sometimes	Automobile	Normal_Weight
6	Female	23.0	1.50	55.0	yes	yes	3.0	3.0	Sometimes	no	2.0	no	1.0	0.0	Sometimes	Motorbike	Normal_Weight
7	Male	22.0	1.64	53.0	no	no	2.0	3.0	Sometimes	no	2.0	no	3.0	0.0	Sometimes	Public_Transportation	Normal_Weight
8	Male	24.0	1.78	64.0	yes	yes	3.0	3.0	Sometimes	no	2.0	no	1.0	1.0	Frequently	Public_Transportation	Normal_Weight
9	Male	22.0	1.72	68.0	yes	yes	2.0	3.0	Sometimes	no	2.0	no	1.0	1.0	no	Public_Transportation	Normal_Weight

PROJECT GOALS

- **Interactive:** Easy-to-use dashboard for predicting obesity levels, enabling user interaction and immediate feedback on personal health metrics.
- **Insightful Analytics:** Utilizing data to uncover insights on factors influencing obesity, aiming to inform and guide users in understanding potential health risks.
- **Educational Value:** Offering a tool for educators and health professionals to promote healthier lifestyles.

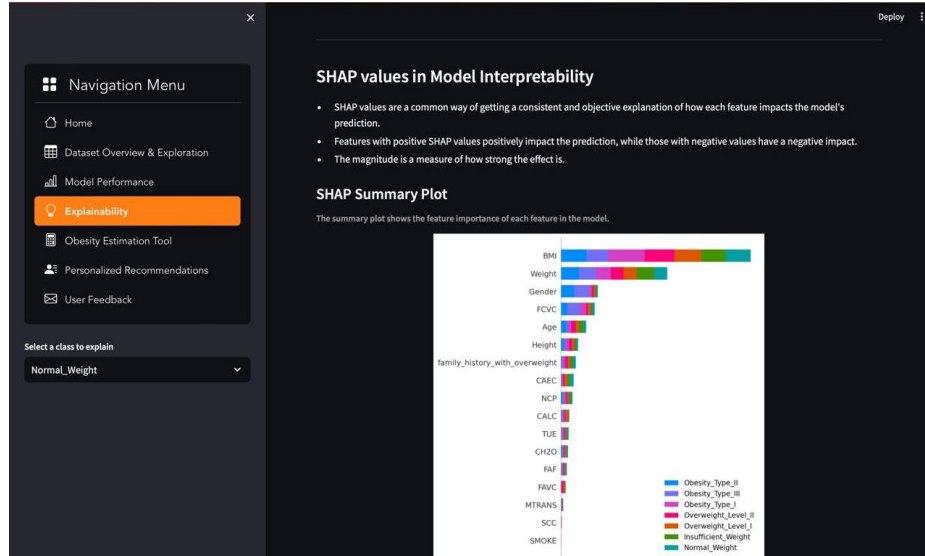
KEY QUESTIONS DRIVING OUR ANALYSIS

Risk Factors: What are the major lifestyle factors that predict obesity in our dataset?

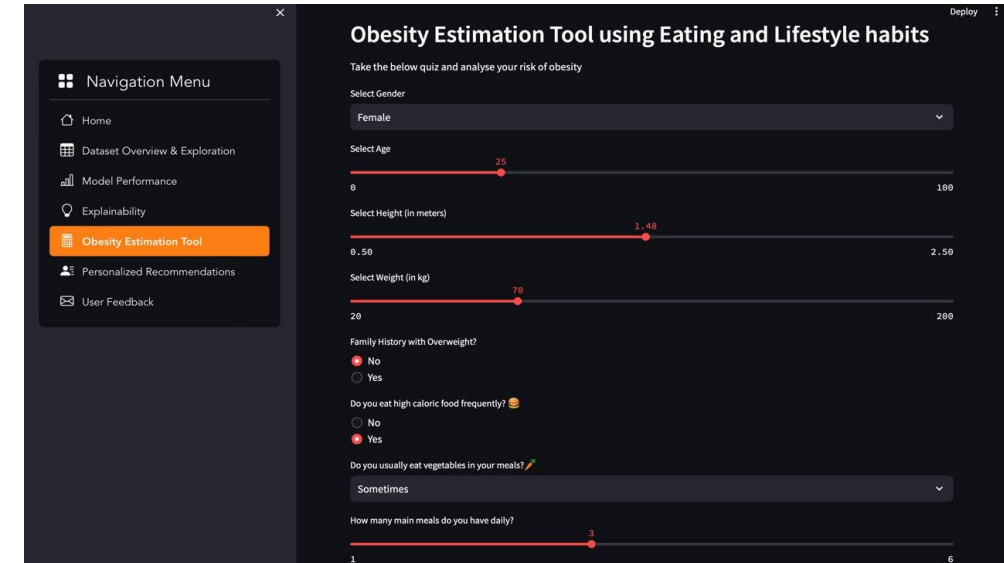
Behavioural Insights: How do specific behaviours and dietary habits correlate with obesity levels?

Personalized Health: How can we tailor health recommendations based on individual risk profiles?

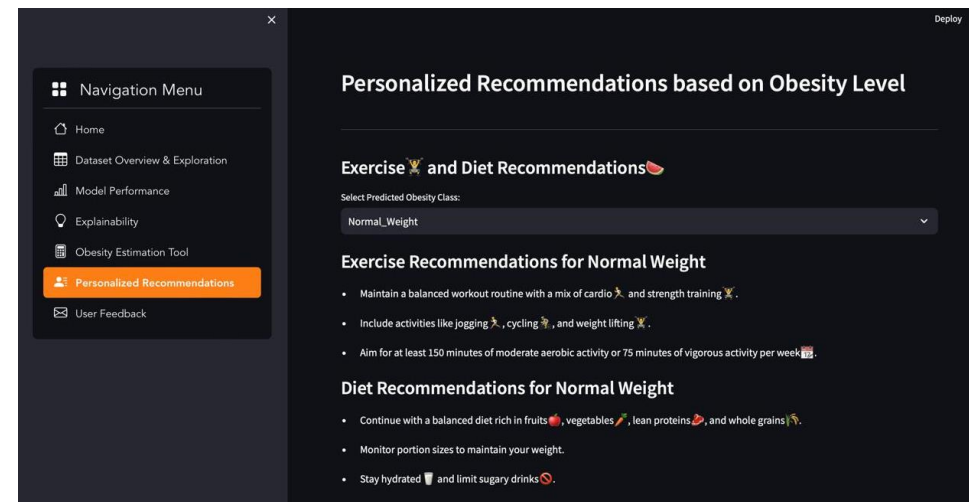
KEY DESIGN CHOICES



Personalized Recommendations




Predictive Modeling with Transparency





Interactive Visualizations and Interface


Navigation Menu


 **Home**


 Dataset Overview & Exploration

 Model Performance

 Explainability

 Obesity Estimation Tool

 Personalized
Recommendations

 User Feedback

Obesity Level Estimation Dashboard

Purpose of the Dataset

The primary purpose of this dataset is to estimate obesity levels based on eating habits and physical condition.

[Link to the UCI Repository.](#)

Why We Chose This Dataset

Obesity is a significant public health concern, and understanding the factors that contribute to it can help in developing effective interventions. This dataset provides comprehensive information on various lifestyle and health-related factors that can be used to predict obesity levels.

Information on Obesity Risks

Obesity is associated with a higher risk of numerous health issues, including:

- Cardiovascular diseases
- Type 2 diabetes
- Certain types of cancer
- Hypertension
- Stroke

LIVE DEMONSTRATION

CONCLUSION & FUTURE DIRECTION

- Demonstrated the importance of AI in enhancing healthcare through predictive insights.
- Plan to incorporate real-time data for more accurate and timely risk assessments.
- Aim to provide more tailored health recommendations based on individual user data and feedback.

THANKYOU