ASTHMA RISK PREDICTION USING MACHINE LEARNING

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INTRODUCTION

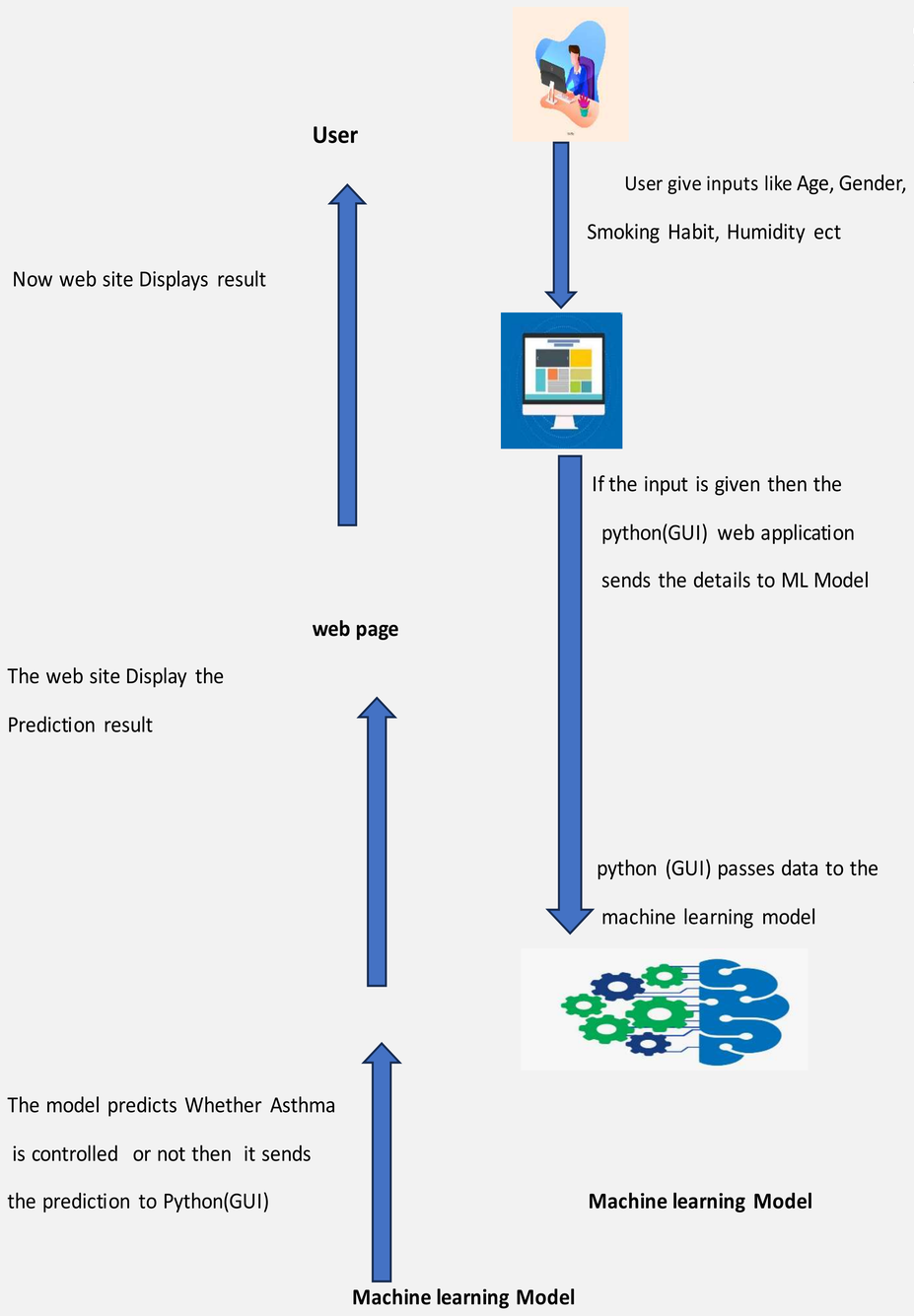
"Unlocking the Future of Respiratory Health"

Introducing Asthma Risk Prediction through Machine Learning. Our innovative approach utilizes advanced algorithms to forecast asthma susceptibility with unprecedented accuracy. By analysing diverse datasets, empower early intervention strategies, potentially saving lives and healthcare costs. Join us on the forefront of personalized medicine, where data-driven insights pave the way for proactive asthma management.

OBJECTIVES

- Effectively identify individuals at high risk of developing asthma before the onset of symptoms.
- Integrating clinical records, Generic data, Environmental Factors, and Lifestyle information to unveil patterns Impacting asthma development .
- The aim is to facilitate early Invention , Personalized Treatment , and Targeted prevention for reducing asthma's impact on Individuals.

PROPOSED PLAN



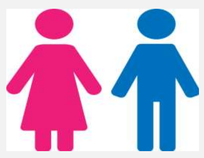
DATASET

Our dataset includes the collection of user inputs age, Smoking habits, Gender, Outdoor activities, outdoor job ,UV Index.

"Above50" mapped to 5
"41-50" mapped to 4
"19-30" mapped to 3
"31-40" mapped to 2

"Yes" mapped to 1
"No" mapped to 0

"Extremely likely" mapped to 1
"Neither likely nor unlikely" mapped to 2
"Not at all likely" mapped to 0

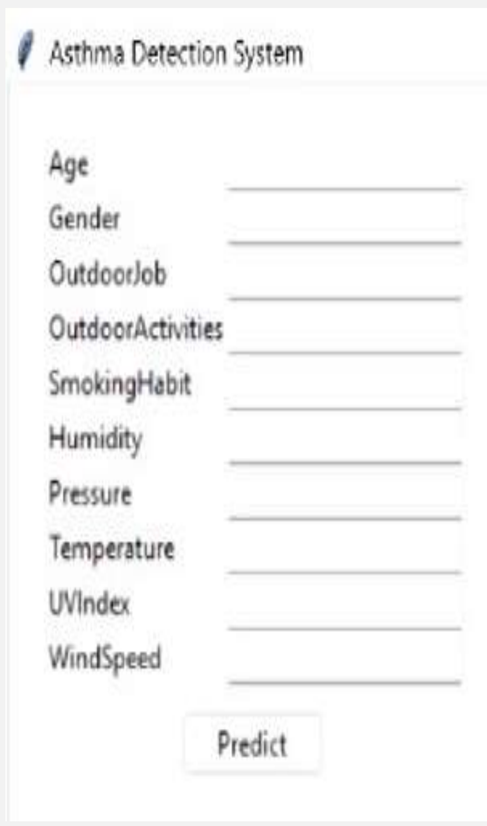


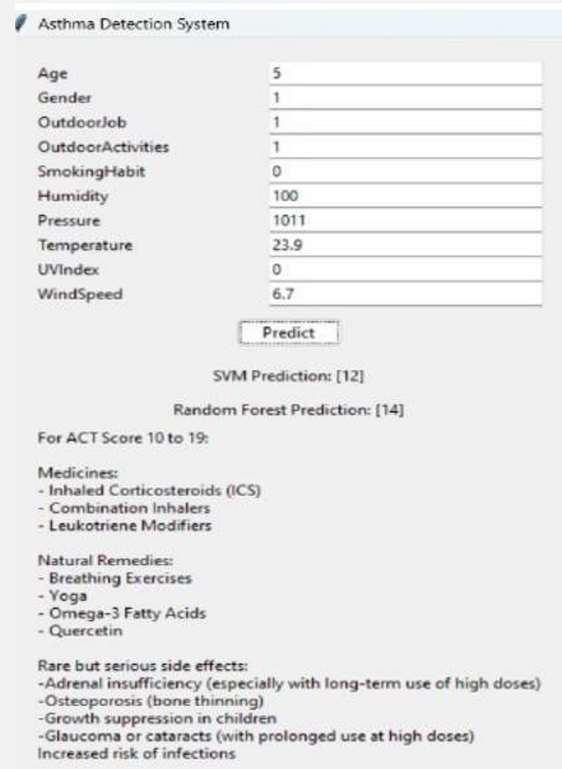
"Male" mapped to 1
"Female" mapped to 0

"Low" mapped to 0
"Extreme" mapped to 1

RESULTS & DISCUSSIONS

The asthma risk prediction project employs SVM and Random Forest models for personalized asthma likelihood assessment. Through a Python GUI, user data undergoes preprocessing, leading to clear indications of asthma prediction, medication suggestions, and potential side effects displayed on a web interface, facilitating informed health management decisions.





CONCLUSION

Machine Learning may hold the key to optimizing treatment and reducing the impact of chronic asthma on patients. However, this potential can only be realized if we can solve critical problems: poor quality Information, choosing which factors are most Important, creating models that work well enough for use in hospitals .

REFERENCES

Predicting Continuity of Asthma Care Using a Machine Learning Model

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8835449/