



CHHATTISGARH SWAMI VIVEKANAND TECHNICAL  
UNIVERSITY, Bhilai

## VOCATIONAL TRAINING PRESENTATION

On

MULTIPLE DISEASE PREDICTION SYSTEM

At

Edunet Foundation

Presented By:-

Course: B.Tech(Hons.) in CSE(AI)

Kishlay Kumar

Roll No- 300012723033

Branch- CSE(AI)

Sem.- 5th

# INDEX

- 1. Introduction**
- 2. Objectives**
- 3. Problem Statement**
- 4. Technologies Used**
- 5. Datasets & ML Models**
- 6. System Architecture & Workflow**
- 7. Results & Analysis**
- 8. Conclusion & Future Enhancements**

# INTRODUCTION

- AI-powered medical screening application
- Predicts **Diabetes, Heart Disease & Parkinson's**
- Uses pre-trained ML models with medical datasets
- Web application developed using **Streamlit**
- Provides quick and accessible disease risk estimation

# OBJECTIVES

- To develop a unified platform for predicting 3 diseases
- Achieve accuracy range of **75–87%**
- Provide easy user interface through Streamlit
- Perform prediction in real-time
- Maintain scalability and modular architecture

# PROBLEM STATEMENTS

Existing medical diagnosis issues:

- Costly laboratory tests
- Long waiting time for reports
- Limited accessibility in rural areas
- No early screening facility

**Solution:** Fast, accurate and accessible ML-based risk prediction system

# TECHNOLOGY USED

- 1. Programming Language:** Python
- 2. Libraries:** NumPy, Pandas, Scikit-Learn
- 3. GUI/Deployment Framework:** Streamlit
- 4. Model Storage:** Pickle
- 5. Tools:** VS Code, Git, GitHub, Google Colab
- 6. GithubLink:** [https://github.com/Kishlay671/  
Multiple\\_Disease\\_Prediction\\_System](https://github.com/Kishlay671/Multiple_Disease_Prediction_System)



# **DATASETS & ML MODELS**

## **Datasets Used:(From Kaggle)**

- Diabetes: Pima Indians Dataset
- Heart Disease: Cleveland Dataset
- Parkinson's: UCI Dataset

## **Machine Learning Models:**

- SVM (RBF kernel) → Diabetes & Parkinson's
- Logistic Regression → Heart Disease

# SYSTEM ARCHITECTURE & WORKFLOW

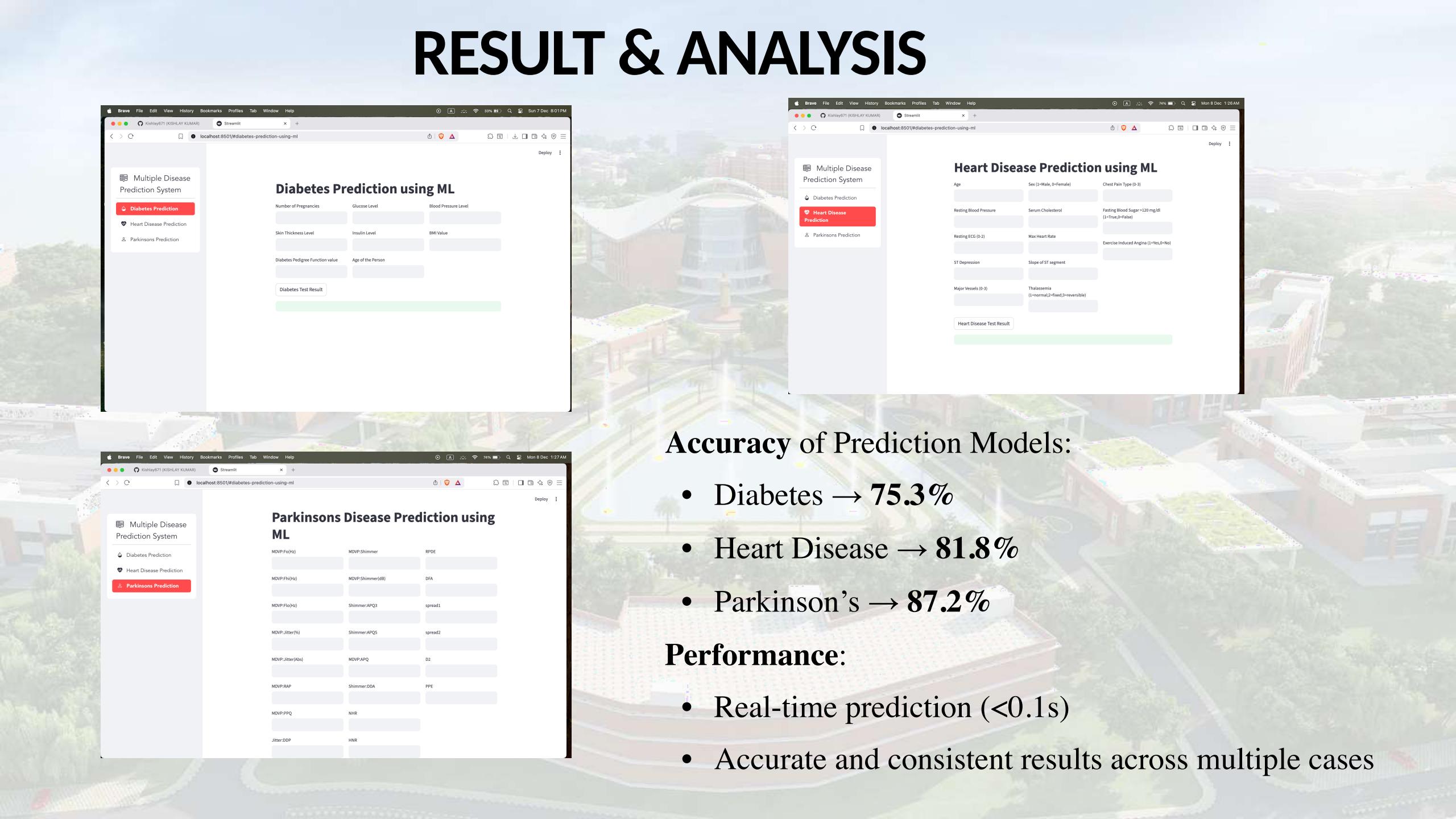
## Architecture:

- UI Layer (Streamlit)
- Processing Layer (Validation & ML Logic)
- Data Layer (Saved Models)

## Workflow:

1. User Inputs Data
2. Preprocessing & Validation
3. ML Model Prediction
4. Output Display with Interpretation

# RESULT & ANALYSIS



Brave File Edit View History Bookmarks Profiles Tab Window Help

Sun 7 Dec 8:01PM

localhost:8501/#diabetes-prediction-using-ml

Multiple Disease Prediction System

Diabetes Prediction

Heart Disease Prediction

Parkinsons Prediction

### Diabetes Prediction using ML

Number of Pregnancies Glucose Level Blood Pressure Level

Skin Thickness Level Insulin Level BMI Value

Diabetes Pedigree Function value Age of the Person

Diabetes Test Result

Deploy

Brave File Edit View History Bookmarks Profiles Tab Window Help

Mon 8 Dec 1:26AM

localhost:8501/#diabetes-prediction-using-ml

Multiple Disease Prediction System

Diabetes Prediction

Heart Disease Prediction

Parkinsons Prediction

### Heart Disease Prediction using ML

Age Sex (1=Male, 0=Female) Chest Pain Type (0-3)

Resting Blood Pressure Serum Cholesterol Fasting Blood Sugar >120 mg/dl (1=True, 0=False)

Resting ECG (0-2) Max Heart Rate Exercise Induced Angina (1=True, 0=False)

ST Depression Slope of ST segment

Major Vessels (0-3) Thalassemia (1=normal, 2=fixed, 3=reversible)

Heart Disease Test Result

Deploy

Brave File Edit View History Bookmarks Profiles Tab Window Help

Mon 8 Dec 1:27AM

localhost:8501/#diabetes-prediction-using-ml

Multiple Disease Prediction System

Diabetes Prediction

Heart Disease Prediction

Parkinsons Prediction

### Parkinsons Disease Prediction using ML

MDVP:Fo(Hz)	MDVP:Shimmer	RPDE
MDVP:FH(Hz)	MDVP:Shimmer(dB)	DFA
MDVP:Flo(Hz)	Shimmer/APQ3	spread1
MDVP:Jitter(%)	Shimmer/APQ5	spread2
MDVP:Jitter(Abs)	MDVP:APQ	D2
MDVP:RAP	Shimmer/DDA	PPF
MDVP:PPQ	NHR	
Jitter:DDP	HNR	

Deploy

## Accuracy of Prediction Models:

- Diabetes → **75.3%**
- Heart Disease → **81.8%**
- Parkinson's → **87.2%**

## Performance:

- Real-time prediction (<0.1s)
- Accurate and consistent results across multiple cases

# CONCLUSION & FUTURE ENHANCEMENT

## Conclusion:

- Developed a functional multi-disease prediction web app
- Highly accessible and fast health risk estimation tool
- Reliable prediction with good accuracy

## Future Enhancements:

- Probability scores & risk visualization
- Add more diseases (Kidney, Liver, Cancer)
- Mobile App UI and cloud database integration

An aerial photograph of a modern university campus. The campus features several buildings with light-colored facades and green roofs. A prominent building in the center has a large, white, curved roof. The grounds are well-maintained with green lawns, trees, and paved walkways. In the background, a city skyline with numerous skyscrapers is visible under a clear blue sky.

Thank you!