



COLLEGE CODE :3126

COLLEGE

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ENGINEERING COLLEGE

DEPARTMENT:CSE

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DATE:14.05.2025

Completed the project named as

TECHNOLOGY-PROJECT NAME: AI
SUBMITTED BY,

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Title: Health Care Diagnostics and Treatment System

Objective:

This project focuses on developing a comprehensive digital system to support diagnostic procedures and provide treatment suggestions using AI and modern medical protocols. The objective is to enable accurate, accessible, and timely healthcare diagnostics, combined with recommended treatment pathways based on clinical data. Diagnostic

Algorithm Design **Overview:**

Using patient data (symptoms, history, vitals), AI algorithms are implemented to identify probable health conditions.

Implementation Highlights:

Rule-based and machine learning hybrid models

Use of validated medical databases Differential diagnosis support

Outcome:

Enhanced diagnostic accuracy with intelligent suggestion of possible conditions and severity assessment.

1.Treatment Protocol Integration

Overview:

Evidence-based treatment options are suggested based on diagnosis and patient profile.

Key Features:

- Drug interaction checks
- Dosage personalization
- Standardized clinical pathway referencing (NICE, WHO)

Outcome:

Improved patient safety and treatment adherence through intelligent decision support.

2.Real-Time Monitoring and Alerts

Overview:

Integration with IoT devices (smart bands, blood pressure cuffs) for live monitoring.

Enhancements:

Alerts for critical changes in vitals

Data visualization dashboards **Outcome:**

Timely interventions and better chronic condition management.

3.Data Security & Compliance

Overview:

End-to-end encryption, HIPAA/GDPR compliance, and audit trails.

Enhancements:

Role-based access control Encrypted

medical record storage **Outcome:**

High standards of data protection and trust in system integrity

4.Testing and Evaluation Overview:

Pilot testing with simulated patient data and medical professional feedback.

Metrics Collected:

- Diagnosis accuracy rate
- Response time
- User satisfaction index **Outcome:**

System proven reliable and ready for larger-scale implementation.

Key Challenges:

1.Diagnostic Ambiguity

Solution: AI tuning with broader datasets

2.Treatment Variability

Solution: Integration with latest clinical practice guidelines

3.Device Compatibility

Solution: Use of standard APIs for wearables **Final**

Steps:

Deployment in a controlled clinical setting and continuous improvement based on live feedback and evolving medical knowledge.

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Online Python...

onlinegdb.com



main.py

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```
patient = Patient(
```

```
disease = doctor.d
```

```
treatment = doctor
```

▼ ✎ 📄 ⚙️ input

1. Diagnose patient

2. View disease statistics

3. Exit

Enter your choice: 1

Enter patient name: john doe

Enter patient age: 30

Enter patient symptoms (comma-separated): fever

Patient Name: john doe

Patient Age: 30

Symptoms: fever

Diagnosed Disease: Malaria

Recommended Treatment: Antimalarial medication

1. Diagnose patient

2. View disease statistics

3. Exit

Enter your choice: 2

/home/main.py:37: UserWarning: Matplotlib is currently using agg, which is a non-GUI backend, so cannot show the figure.

```
plt.show()
```

1. Diagnose patient

2. View disease statistics

3. Exit

Enter your choice:





