

# Requirement Gathering

## 1. Stakeholder Analysis

### Key stakeholders and their needs:

- **Patients:** Want an accurate prediction of disease risks based on their health data.
- **Doctors:** Need a dashboard that displays patient risk analysis to assist in making better medical decisions.
- **Hospitals:** Aim to improve healthcare quality and reduce treatment costs by predicting diseases.
- **Healthcare Researchers:** Can use the system to analyze health data and discover new disease patterns.

## 2. User Stories & Use Cases

### Potential user stories:

- **As a patient,** I want to input my health data (such as age, blood pressure, sugar level, etc.) to receive a prediction of my disease risk.
- **As a doctor,** I want a dashboard that provides a risk analysis of patients based on their health data to help me make accurate medical decisions.
- **As a hospital,** I want to receive analytical reports on patients who are likely to develop chronic diseases so that preventive measures can be taken.

## 3. Functional Requirements

- Input patient data (manually or via CSV files).
- Process and analyze data using AI algorithms (such as Random Forest, SVM, Neural Networks).
- Display prediction results in a visual format (graphs, tables, charts).
- Provide recommendations to doctors based on the analysis results.

## 4. Non-functional Requirements

- **Performance:** The system should provide results within **5 seconds** per analysis request.
- **Security:** Patient data should be encrypted and access to sensitive information should be protected.
- **Usability:** The user interface should be intuitive and easy to navigate for both doctors and patients.
- **Scalability:** The system should handle a large number of users and datasets without performance degradation.