Intelligent Symptom Interpretation System

ABSTRACT :

The increasing demand for accessible and accurate preliminary healthcare guidance has driven the development of intelligent systems capable of interpreting symptoms and providing possible diagnoses or recommendations. This project presents an Intelligent Symptom Interpretation System, a smart, AI-powered solution designed to analyze user-reported symptoms and suggest potential medical conditions along with appropriate actions. The system leverages Natural Language Processing (NLP) to understand and process free-text symptom descriptions, extracting relevant clinical information using entity recognition and semantic analysis. The core of the system utilizes a hybrid approach combining a medical knowledge base with machine learning models trained on publicly available medical datasets. These models are capable of associating symptom patterns with likely health conditions, ranked by probability. The system is also designed to flag emergency symptoms and advise immediate medical attention where applicable. Additionally, it can provide users with suggestions for over-the-counter remedies or recommend scheduling an appointment with specific specialists. To enhance accessibility, the system supports a conversational interface—allowing users to interact naturally via chat—and provides multilingual support. The project emphasizes accuracy, user privacy, and responsiveness, making it suitable for deployment in both web-based and mobile health platforms. By offering quick, informative, and personalized symptom interpretation , this system aims to empower users with better health awareness, reduce unnecessary clinic visits, and support early detection of critical conditions.