GANstars

Enhancing Health Data Interpretation

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Understanding the Challenge: Health Data Overload and Low Actionability

Transforming complex health data into actionable insights for patients and providers

High risk of misinterpretation

Different diseases share similar symptoms and test markers, often leading to delays or incorrect diagnoses. These issues cause longer treatment cycles, higher costs, and put patients at avoidable risk.

Recognize complexity of medical reports for patients

Reports are often complicated and difficult for patients to understand, hindering their ability to interpret health information correctly.

Address patient difficulty distinguishing normal vs abnormal results

Patients frequently struggle to differentiate between normal and abnormal health indicators, leading to confusion and anxiety.

Acknowledge time burden on doctors explaining results

Physicians spend significant time clarifying medical report findings to patients, which reduces clinical efficiency and productivity.

Identify risk of missed early detection and preventive care

The complexity and low actionability of data contribute to missed opportunities for early risk identification and timely preventive interventions.

Unlocking Predictive Insights Hidden in Health Reports

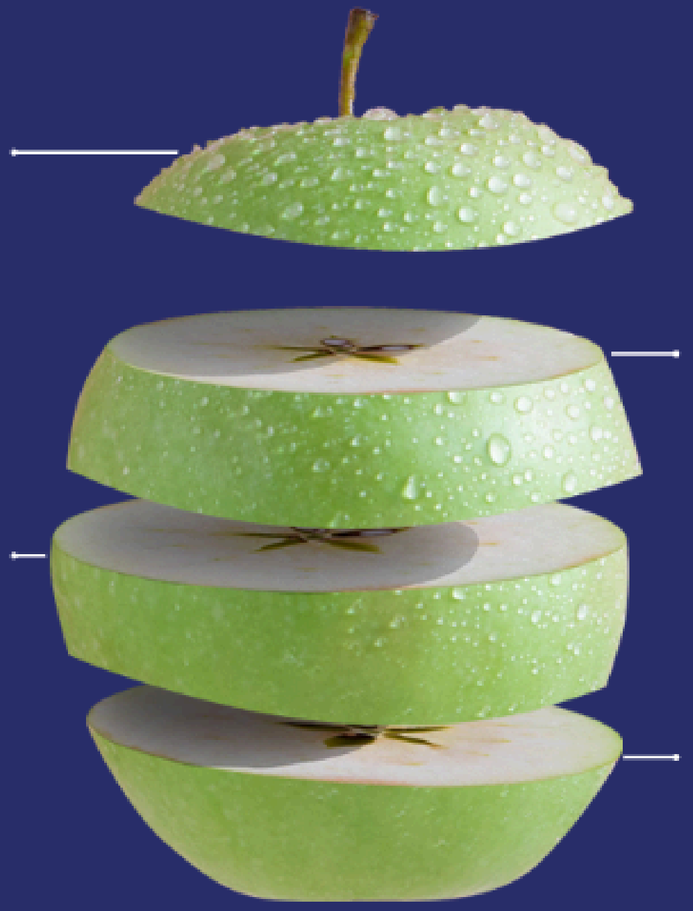
Bridging the gap between raw data and patient empowerment through intelligent interpretation

Biomarkers provide predictive data

Biomarkers hold valuable info that predicts current and future **health risks** accurately.

Organ-wise reporting is standard practice

Doctors prefer to check heart, liver, and blood data individually, and then cross-reference — so any system must mirror that workflow.



Disease symptoms overlap

Conditions like fatigue, abnormal liver enzymes, and chest pain overlap, making single-disease prediction models unreliable.

Need for automated analysis engine

Existing health analytics tools either focus on raw visualization (dashboards) or single-condition detection — leaving a gap for multi-disease, organ-wise, doctor-friendly interpretation

Proposed Solution: Automated Health Report Analysis & Insight Engine

Streamlining complex medical data into personalized, actionable health intelligence

01

Input Health Data

Utilizes test results like **blood** and **liver test** as primary structured data sources to provide comprehensive health analysis and ensure accurate processing.

02

Biomarker Analysis

Automatically classifies **biomarkers** as **normal** or **abnormal** to clearly define the patient's current health status for better understanding.

03

Correlation

Establishes links between **patient symptoms** and **biomarker trends** to improve the **diagnostic accuracy** and support clinical decisions.

04

Better diagnostic support

By combining multiple organ-level insights, the system provides a comprehensive picture, improving accuracy and reducing missed diagnoses.

05

Risk Insights

Generates **predictive analytics** to **detect 3-4 potential health risks** early, enabling proactive management and prevention strategies

06

Doctor-centric design

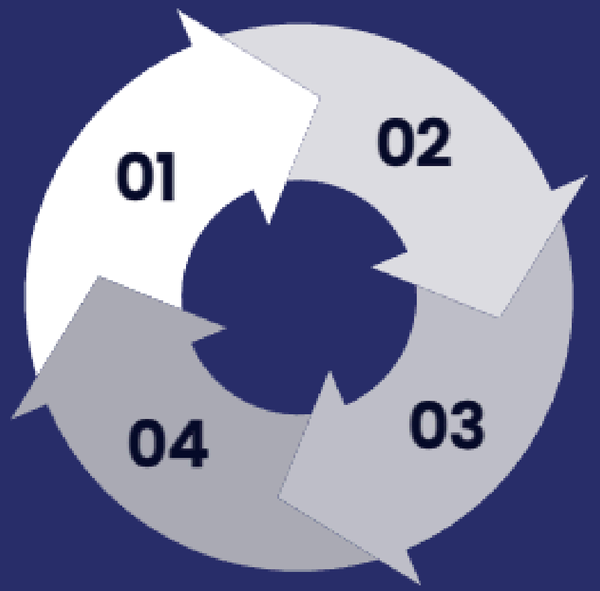
The platform doesn't replace doctors - it augments their decisions by providing structured, prioritized insights.

Prototype Demonstration: From Report Upload to Personalized Recommendations

Showcasing workflow and technology enabling timely health insights and actions

Upload

User uploads **health report** for structured data parsing.



Technology

Combines rule-based and machine learning insights for each organ test

Shows probability of each risk

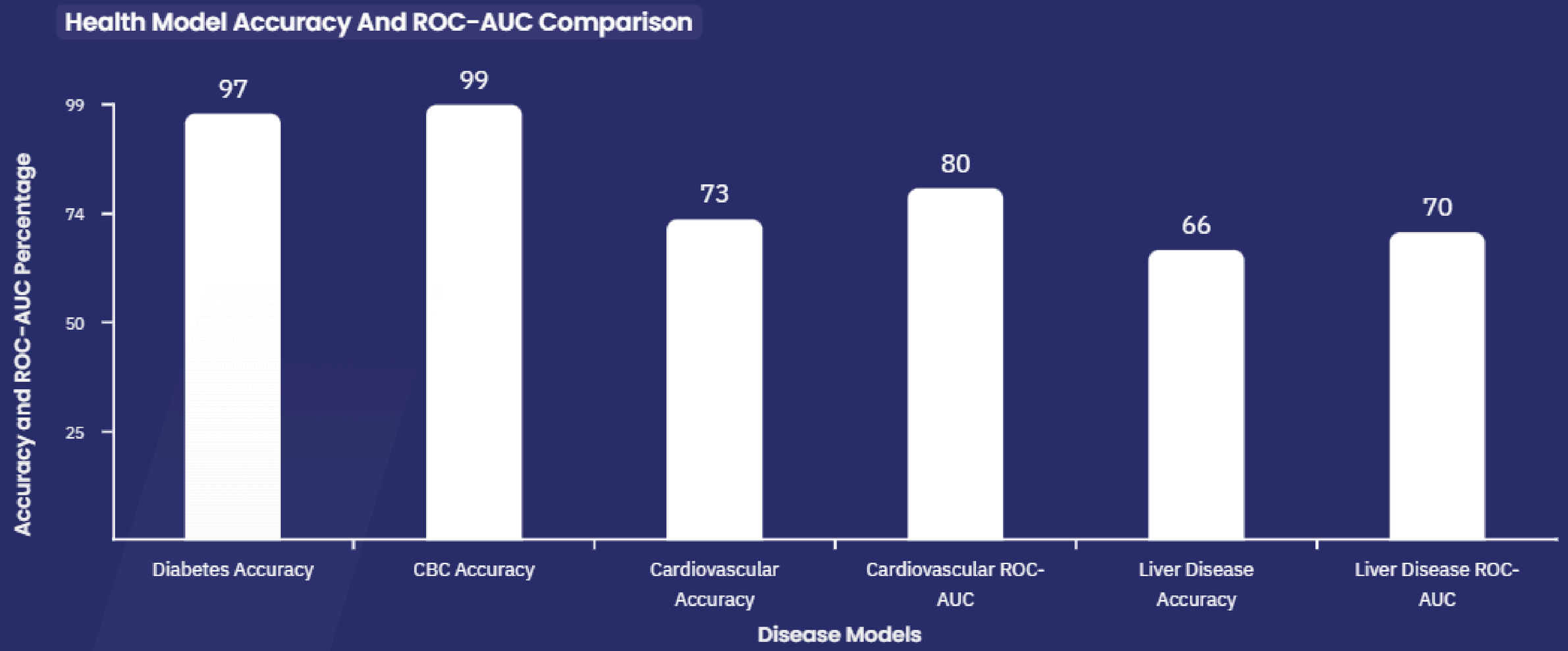
Displays **longitudinal trends** like rising cholesterol.

Risk Alerts

Highlights critical risks: **heart disease, liver, diabetes.**

Comparing Predictive Accuracy Across Health Models

Evaluating model performance for diabetes, CBC, cardiovascular, and liver diseases



Next Steps: Roadmap Towards a Scalable AI-Powered Health Companion

Strategic milestones for scalable, personalized AI-driven healthcare solutions

Short-term

Expand dataset coverage and accuracy

Broadening data sources to include kidney and other organs and imaging metadata enhances diagnostic depth while refining rule-based recommendations improves precision in early healthcare interventions.

Medium-term

Develop predictive ML models

Building machine learning models trained on extensive patient datasets enables accurate health predictions, integration with wearable and continuous monitoring devices allows real-time, personalized health insights.

Long-term

Deploy and scale AI health companions

Launching AI-powered personal health companions and scaling the solution across hospitals, insurers, and telemedicine platforms transforms healthcare delivery through widespread personalized preventive care.