MEDIASSIST
AI-POWERED HEALTHCARE SOLUTIONS

GROUP 7

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ARCHITECTURE
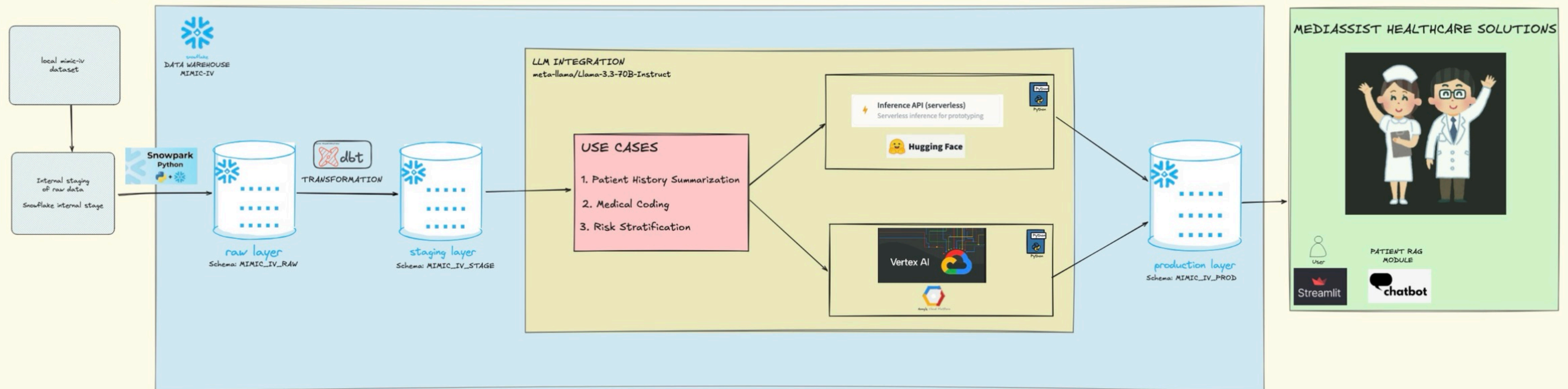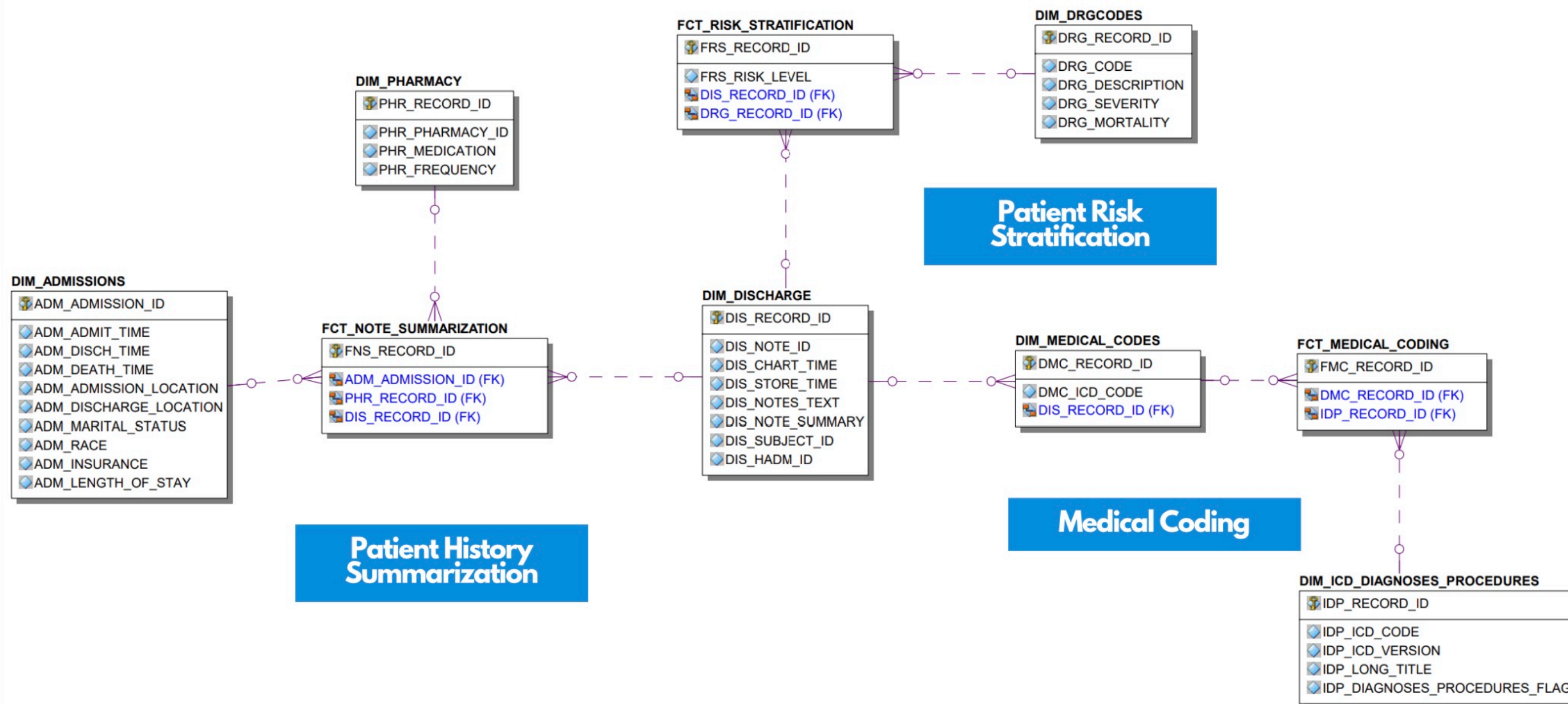

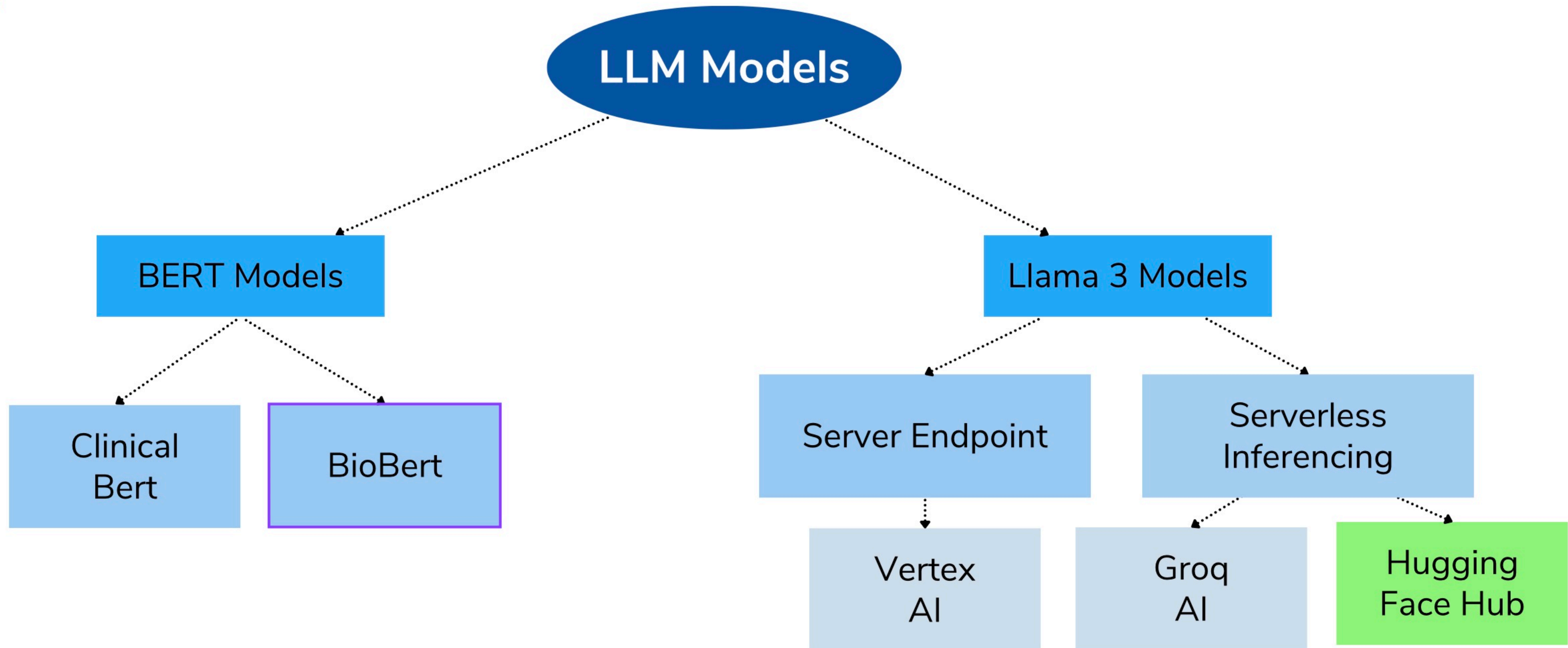MediAssist Healthcare Data Workflow Architecture Diagram

MEDIASSIST DATA MODEL

LLM MODEL SELECTION

USE CASES

Chief Complaint:
A 58-year-old male presents with worsening chest pain radiating to the left arm and shortness of breath over the past 48 hours.

History of Present Illness:
The patient reports intermittent episodes of pressure-like chest pain, exacerbated by physical activity and relieved with rest, starting two days ago. Pain intensity has increased in the past 24 hours and is now associated with nausea and lightheadedness. No recent fevers, chills, or cough. He denies previous similar episodes.

Past Medical History:

Hypertension (diagnosed 10 years ago)
Hyperlipidemia
Type 2 Diabetes Mellitus

Medications:

Metformin 500 mg BID
Lisinopril 10 mg daily
Atorvastatin 20 mg daily

Family History:
Father passed away from myocardial infarction at age 62.

Physical Examination:

Vital signs: BP 160/98 mmHg, HR 105 bpm, RR 22/min, SpO2 94% on room air
General: Alert, mildly diaphoretic
Cardiovascular: Tachycardia, S1/S2 normal, no murmurs
Respiratory: Bilateral breath sounds clear
Extremities: No edema

Assessment and Plan:

Acute coronary syndrome – Initiate workup with EKG and troponins.
Hypertension – Adjust medication as needed.
Diabetes management – Continue monitoring.

PATIENT HISTORY SUMMARIZATION

MEDICAL CODING

PATIENT RISK STRATIFICATION

Patient Report: 10000032

Hospital Admission ID: 22595853

Details	Values
Admit Date	2180-05-06
Discharge Date	2180-05-07
Insurance	Medicaid

Pharmacy Details:

Medication	Frequency
Raltegravir	BID
Spironolactone	DAILY
Acetaminophen	Q6H PRN
Spironolactone	DAILY
Furosemide	DAILY
Potassium Chloride	ONCE
Nicotine Patch	DAILY
Influenza Vaccine Quadrivalent	NOW X1
Emtricitabine-Tenofovir (Truvada)	DAILY
Ipratropium Bromide Neb	Q6H
Furosemide	DAILY
Sodium Chloride 0.9% Flush	Q8H
Albuterol Inhaler	Q6H PRN
Heparin	TID

Medical Note Summary:
Patient Summary:
- Patient Information:
  - Sex: Female
  - Chief Complaint: Worsening abdominal distension and pain
  - Allergies: No known allergies/adverse drug reactions
- Admission Details:
  - Service: Medicine
  - Admission Date: Not Provided

	ICD Code	Description
0	I214	Non-ST elevation (NSTEMI) myocardial infarction
1	I10	Essential (primary) hypertension
2	E119	Type 2 diabetes mellitus without complications
3	I2510	Atherosclerotic heart disease of native coronary artery without angina pectoris
4	R071	Chest pain on breathing
5	R0602	Shortness of breath
6	I509	Heart failure, unspecified
7	E785	Hyperlipidemia
8	R55	Syncope and collapse
9	Z867	Personal history of Other diseases of the circulatory system

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- https://cloud.google.com/vertex-ai?hl=en

DEMO

Application Link:

https://mediassist-ai.streamlit.app/

DEEP DIVE INTO OUR WORK

➕ ALTERYX VS DBT IMPLEMENTATION?

➕ POC OF DIFFERENT LLM MODELS DONE?

➕ WHY DID WE NOT CHOOSE ANY OTHER MODEL?

➕ WHAT MADE US USE THE INFERENCE API HUGGING FACE MODEL IMPLEMENTATION ?

Find all the answers in the link below:
MediAssist Project Documentation

THANK YOU