



# **Analyzing Drug Medication Database Project**

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# Data Background

We chose to work with Drug Dataset found on Kaggle with 9 columns and 11.8k rows.

Medicine Name	Composition	Uses	Side Effects	Image URL	Manufacturer	Excellent Review %	Average Review %	Poor Review %
Azithral 500 Tablet	Azithromycin (500mg)	Treatment of Bacterial infections	Nausea Abdominal pain Diarrhea	<a href="https://onemg.gumlet.io/...">https://onemg.gumlet.io/...</a>	Alembic Pharmaceuticals Ltd	39	40	21

## Text Cleaning Strategy

*Uses*

Fix missing spaces

Remove structured phrases

Split on capitals

Clean up fragments

*Side Effects*

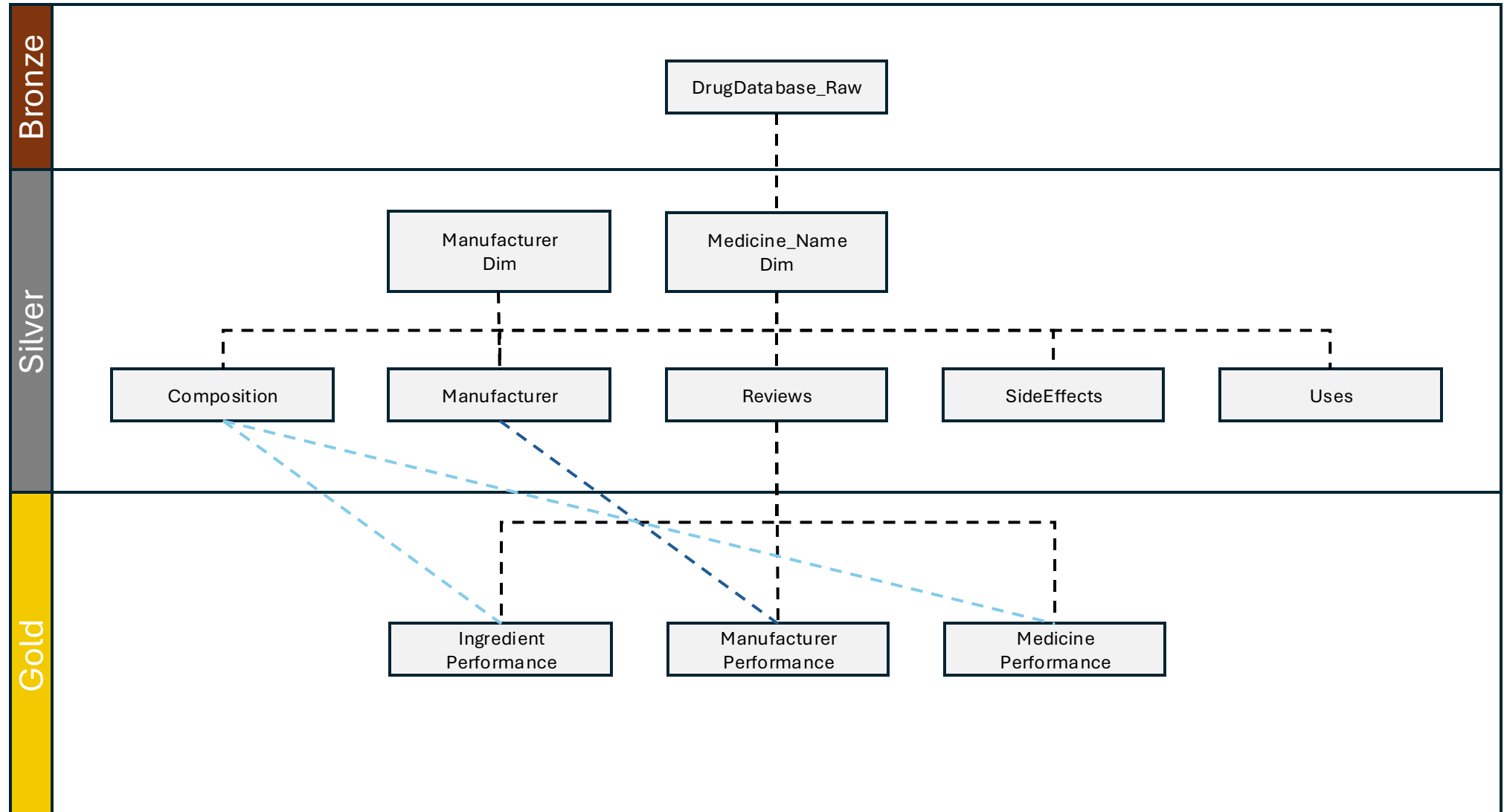
Fix missing spaces

Split on capitals

Remove parantheses

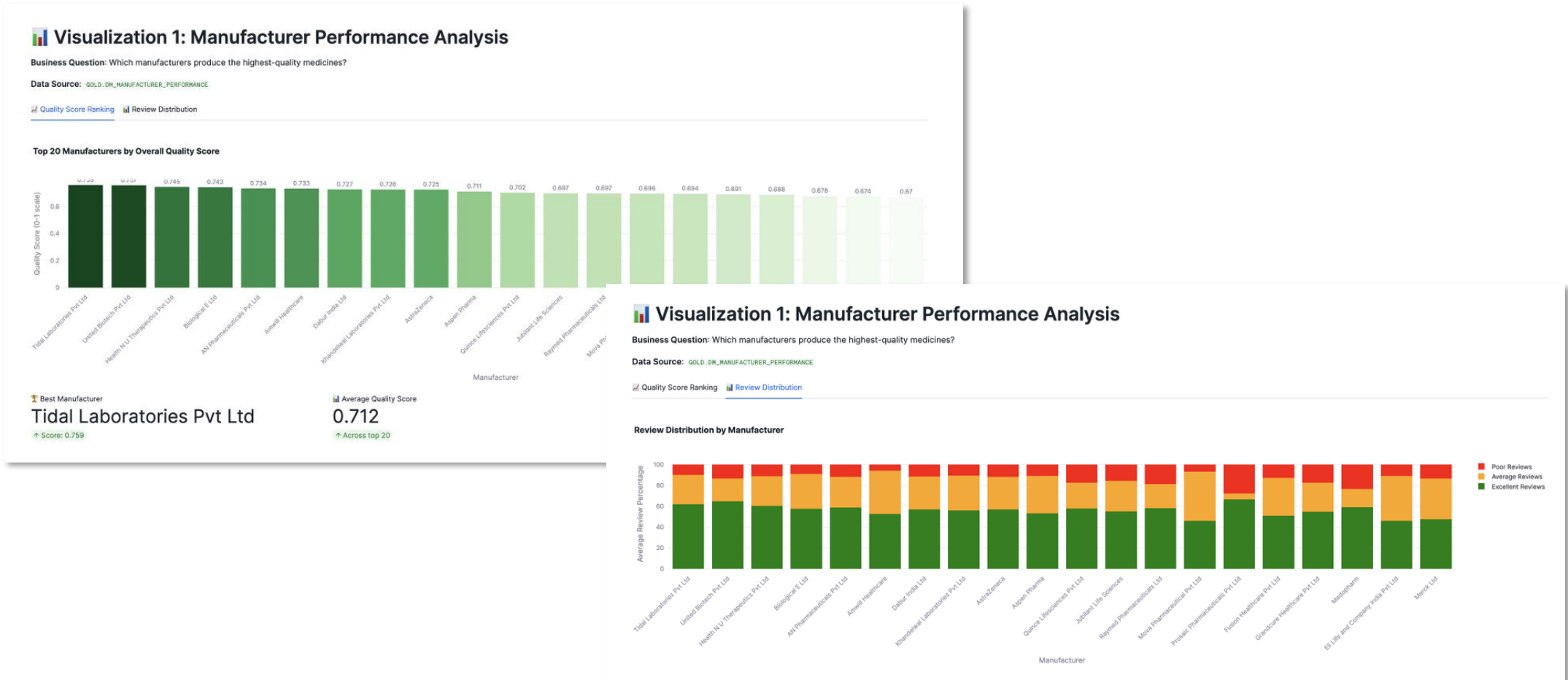
Clean up fragments

# Medallion Architecture



# Gold Layer Streamlit Visualizations

## Manufacturer Performance:



# Gold Layer Streamlit Visualizations

## Medicine Performance:

**Visualization 2: Top-Performing Medicines**

**Business Question:** Which medicines deliver the best customer satisfaction?

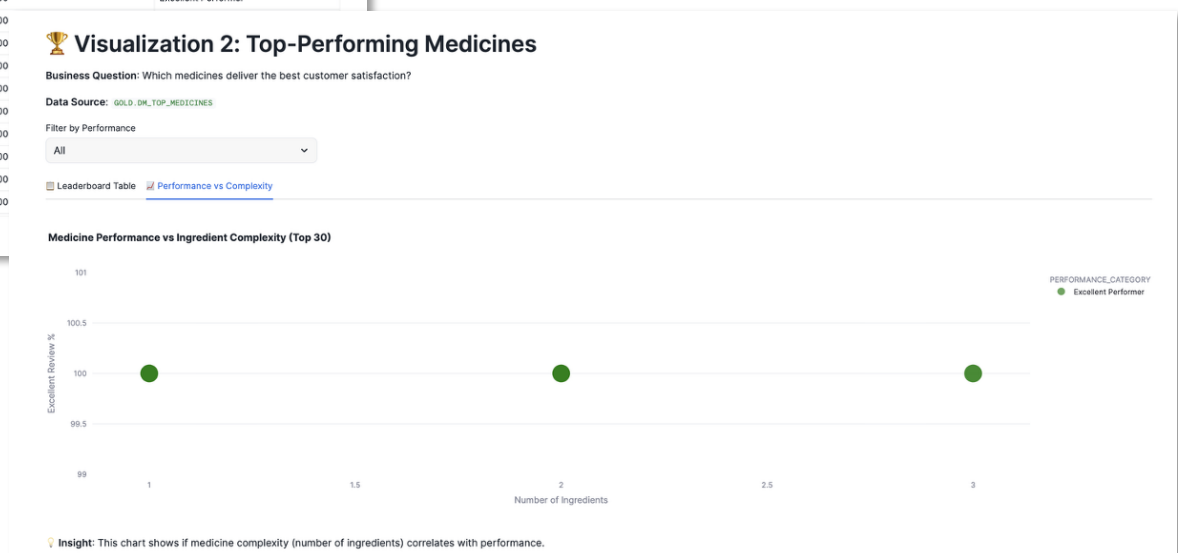
**Data Source:** GOLD\_OH\_TOP\_MEDICINES

Filter by Performance: All

[Leaderboard Table](#) [Performance vs Complexity](#)

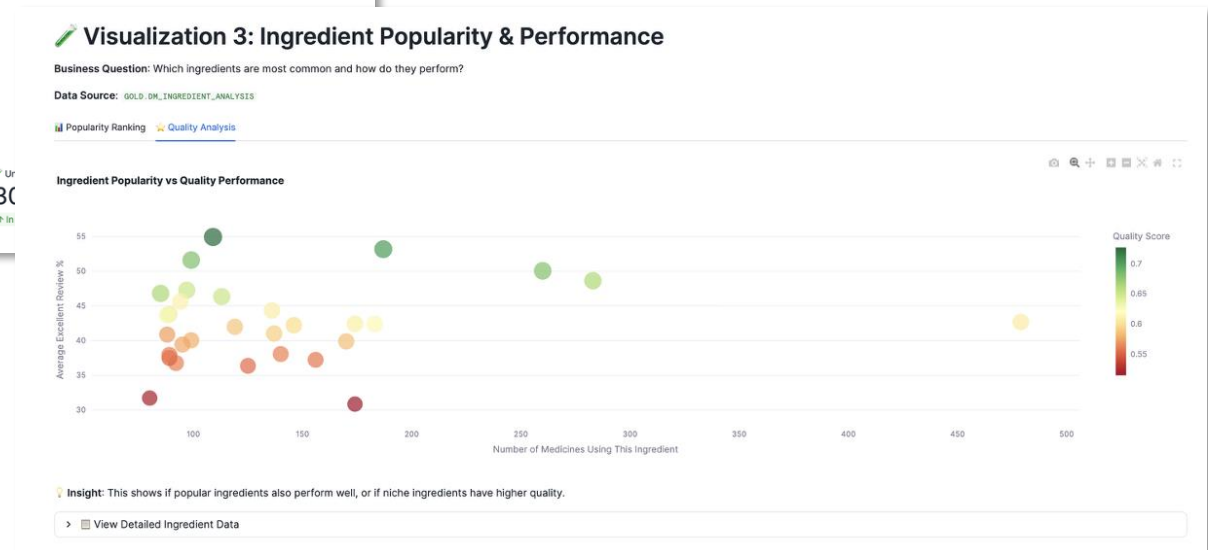
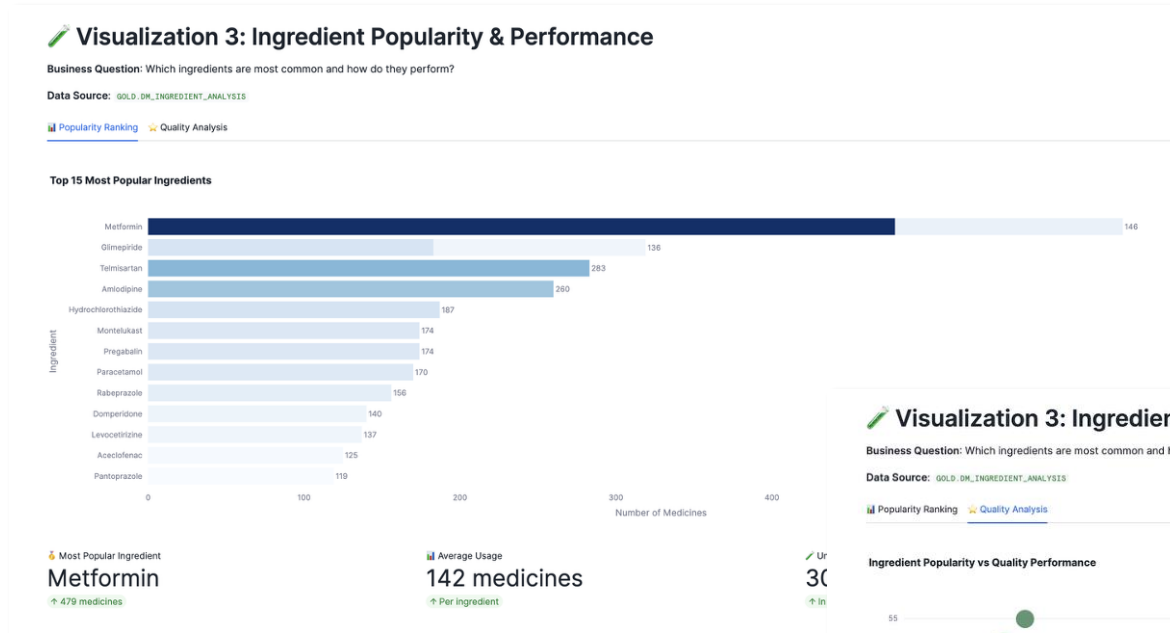
	OVERALL_RANK	MEDICINE_NAME	MANUFACTURER	EXCELLENT_REVIEW_PERCENTAGE	OVERALL_QUALITY_SCORE	PERFORMANCE_CATEGORY
0	1	Decdan Next 6mg Tablet	Wockhardt Ltd	100.0%	1.0000	Excellent Performer
1	1	K Terbimax Cream	Eskon Pharma	100.0%	1.0000	Excellent Performer
2	1	Tribet 1 Tablet ER	Abbott	100.0%	1.0000	Excellent Performer
3	1	Twintel 40 Tablet	Zydus Cadila	100.0%	1.0000	Excellent Performer
4	1	Seizgard 200mg Tablet	UCB India Pvt Ltd	100.0%	1.0000	Excellent Performer
5	1	Seizgard 200mg Tablet	UCB India Pvt Ltd	100.0%	1.0000	Excellent Performer
6	1	Seizgard 200mg Tablet	UCB India Pvt Ltd	100.0%	1.0000	Excellent Performer
7	1	Seizgard 200mg Tablet	UCB India Pvt Ltd	100.0%	1.0000	Excellent Performer
8	1	Olisvir Capsule	Glenmark Pharmaceuticals Ltd	100.0%	1.0000	Excellent Performer
9	1	Emimont 5mg/10mg Tablet	Dr Cure Pharmaceuticals India Pvt Ltd	100.0%	1.0000	Excellent Performer
10	1	Trioptal 450 Tablet	Novartis India Ltd	100.0%	1.0000	Excellent Performer
11	1	NAC -AQ Injection	Systopic Laboratories Pvt Ltd	100.0%	1.0000	Excellent Performer
12	1	Enzrid-DS Tablet	Zunison Healthcare	100.0%	1.0000	Excellent Performer
13	1	Telmijub AM 80mg Tablet	Jubilant Life Sciences	100.0%	1.0000	Excellent Performer
14	1	Olymnic M 2mg/500mg Tablet	Fusion Healthcare Pvt Ltd	100.0%	1.0000	Excellent Performer
15	1	Omnix 100 Dry Syrup Strawberry	Cipla Ltd	100.0%	1.0000	Excellent Performer

[Download Full Data as CSV](#)



# Gold Layer Streamlit Visualizations

## Ingredient Performance:



# AI SQL

We created two AI SQL columns: AI\_Recommendation and AI\_Summary.

The screenshot shows a data table interface for a table named 'DB\_TEAM\_HNP / BRONZE / DRUGDATABASE\_RAW'. The table has 11.8K rows and 3.2MB of data. The 'Data Preview' tab is selected, showing 100 of 11.8K rows. The table has columns: R\_REVIEW\_PERCENTAGE, AI\_RECOMMENDATION, and AI\_SUMMARY. The AI\_RECOMMENDATION and AI\_SUMMARY columns are highlighted with a red dashed border.

	R_REVIEW_PERCENTAGE	AI_RECOMMENDATION	AI_SUMMARY
1	22	Based on the provided information, I recommend that doctors consider Avastin 4...	Avastin 400mg Injection, manufactured by Roche Products India Pvt Ltd, contain...
2	18	Based on the information provided, I would recommend Augmentin 625 Duo Tab...	Medicine: Augmentin 625 Duo Tablet. Manufacturer: Glaxo SmithKline Pharmace...
3	21	Based on the information provided, I would recommend Azithral 500 Tablet as a...	Medicine: Azithral 500 Tablet. Manufacturer: Alembic Pharmaceuticals Ltd. Ingre...
4	35	Based on the medication's ingredients and side effects, I recommend that doctor...	Medicine: Ascoril LS Syrup. Manufacturer: Glenmark Pharmaceuticals Ltd. Ingre...
5	29	Based on the information provided, I recommend that doctors consider prescribi...	Medicine: Aciloc 150 Tablet. Manufacturer: Cadila Pharmaceuticals Ltd. Ingre...

# Cortex Search

```
207
208 WITH search_results AS (
209     SELECT PARSE_JSON(
210         SYSTEM$CORTX_SEARCH_QUERY(
211             'DB_TEAM_HNP.BRONZE.BRONZE_SEARCH',
212             '{"query": "antibiotics for bacterial infections", "limit": 10}'
213         )
214     ) AS result
215 )
216 SELECT
217     f.value::MEDICINE_NAME::STRING AS medicine_name,
218     f.value::"@scores":cosine_similarity::FLOAT AS relevance_score
219 FROM search_results,
220     LATERAL FLATTEN(input => result:results) f
221 ORDER BY relevance_score DESC;
```

Results (just now)

Table Chart 10 rows 174ms

	MEDICINE_NAME		RELEVANCE_SCORE
	Ibflux Oral Solution	10.0%	
	Inmecin 50mg Capsule	10.0%	
	+8 more		0.44051868 0.4692691
1	Percin Tablet		0.4692691
2	Supirocin-B Plus Ointment		0.46188933
3	Inmecin 50mg Capsule		0.45389456
4	Pirox Gel 30gm for Skin Infections		0.45343328
5	Zithrocin 500mg Tablet		0.45158833
6	Supirocin Ointment		0.45128083
7	Zithrocin XL Syrup		0.4497434

```
240
241 WITH search_results AS (
242     SELECT PARSE_JSON(
243         SYSTEM$CORTX_SEARCH_QUERY(
244             'DB_TEAM_HNP.BRONZE.BRONZE_SEARCH',
245             '{"query": "diabetes treatment medication", "limit": 10}'
246         )
247     ) AS result
248 )
249 SELECT
250     f.value::MEDICINE_NAME::STRING AS medicine_name,
251     f.value::"@scores":cosine_similarity::FLOAT AS relevance_score
252 FROM search_results,
253     LATERAL FLATTEN(input => result:results) f
254 ORDER BY relevance_score DESC;
```

Results (just now)

Table Chart 10 rows 180ms

	MEDICINE_NAME		RELEVANCE_SCORE
	Diabetrol SR Tablet	10.0%	
	Diabetrol Tablet	10.0%	
	+8 more		0.5081167 0.57148015
1	Diabetrol Tablet		0.57148015
2	Diabetrol SR Tablet		0.5553127
3	Dibeta GB 5 mg/500 mg Tablet		0.54780054
4	Metformin 850mg Tablet		0.5282036
5	Gluformin 500 Tablet		0.527387
6	Triformin 5mg/500mg/15mg Tablet		0.5239576
7	Mibeta 20mg Tablet		0.5229777



# Cortex Analyst

```
270      CONCAT(
271          'Based on this data, should doctors prescribe this for bacterial infections?\n',
272          'Medicine: ', MEDICINE_NAME, '\n',
273          'Uses: ', USES, '\n',
274          'Side Effects: ', SIDE_EFFECTS, '\n',
275          'Patient Rating: ', EXCELLENT_REVIEW_PERCENTAGE, '%\n\n',
276          'Answer: YES or NO, then give 1 sentence explaining why.'
277      )
278  ) AS prescription_recommendation
279  FROM DRUGDATABASE_RAW
280  WHERE LOWER(USES) LIKE '%bacterial%'
281  ORDER BY EXCELLENT_REVIEW_PERCENTAGE DESC
282  LIMIT 10;
```

Results (just now)

Table Chart

	MEDICINE_NAME	MANUFACTURER	EXCELLENT_REVIEW_PERCENTAGE	PRESCRIPTION_RECOMMENDATION
	Acnecap Gel	Micro Labs Ltd	10.0%	NO The medicine is intended for the treatment of b...
	Aminogen Eye ...	AN Pharmaceuticals Pvt...	10.0%	NO The medicine is labeled for use in bacterial infec...
	+8 more	+6 more	100	+8 more
1	Anbid 500 Tablet	AN Pharmaceuticals Pvt Ltd	100	YES The medicine is specifically labeled for the treatment of bac
2	Azilide -XL Redimed	Micro Labs Ltd	100	YES The medicine is specifically labeled for the treatment of bac
3	Azenam 1gm Injection	Aristo Pharmaceuticals Pvt Ltd	100	YES The medicine has a 100% patient rating, indicating that it is
4	Derმოquinol 8% Ointment	East India Pharmaceutical Works Lt	100	NO The medicine is labeled for use in bacterial infections of the
5	Bactoclav Dry Syrup	Micro Labs Ltd	100	NO The medicine is specifically listed as treating Resistance Tub
6	Aminogen Eye Drop	Jawa Pharmaceuticals Pvt Ltd	100	YES The medicine is specifically designed to treat bacterial eye i
7	Azithral 500mg Injection	Alembic Pharmaceuticals Ltd	100	YES The medicine is specifically labeled for the treatment of bac
8	Erox CV Dry Syrup	Micro Labs Ltd	100	NO The medicine is specifically listed as treating Resistance Tub

```
-- QUERY 3: What are the safest medicines in our database (risk assessment)?
-- Business Value: Risk management, insurance optimization, patient safety
-- =====
```

```
SELECT
  MEDICINE_NAME,
  MANUFACTURER,
  SIDE_EFFECTS,
  EXCELLENT_REVIEW_PERCENTAGE,
  POOR_REVIEW_PERCENTAGE,
  SNOOWFLAKE.CORTEX.COMPLETE(
    'Assess the safety profile:\n',
    'Medicine: ', MEDICINE_NAME, '\n',
    'Side Effects: ', SIDE_EFFECTS, '\n',
    'Excellent Reviews: ', EXCELLENT_REVIEW_PERCENTAGE, '%\n\n',
    'Poor Reviews: ', POOR_REVIEW_PERCENTAGE, '%\n\n',
    'Rate safety as: VERY SAFE, SAFE, MODERATE RISK, or HIGH RISK. ',
    'Explain in 1 sentence.'
  )
) AS safety_rating
FROM DRUGDATABASE_RAW
WHERE EXCELLENT_REVIEW_PERCENTAGE >= 50
ORDER BY POOR_REVIEW_PERCENTAGE ASC
LIMIT 15;
```

USE ROLE ROLE\_TEAM\_HRP;

MEDICINE_NAME	MANUFACTURER	SIDE_EFFECTS	EXCELLENT_REVIEW_PERCENTAGE	POOR_REVIEW_PERCENTAGE	SAFETY_RATING
Proxymon Tablet	Apanta Pharma Ltd	Abdominal pain Allergy Vomiting Nausea Diarrhea Muc...	6.7%	6.7%	I would rate the safety profile of Ace Proxymon Tablet as ... 6.7%
Injection	Alkem Laboratories Ltd	Axamias inability to stay still Anxiety Blurred vision Con...	6.7%	6.7%	I would rate the safety profile of Aclolc Injection as VERY... 6.7%
more	+13 more	+13 more			+13 more
Proxymon Tablet	Dr Reddy's Laboratories Ltd	Nausea Vomiting Stomach pain epigastric pain Loss of appetite Hea			I would rate the safety profile of Ace Proxymon Tablet as SAFE, as w
Albidin 1000mg Tablet	Sun Pharmaceutical Industries Ltd	Diarrhea Dizziness Hives Itching Nausea Erythema skin redness Sto			I would rate the safety profile of Aldosmin 1000mg Tablet as VERY S
Albidin LS Ophthalmic Solution	Allergan India Pvt Ltd	Burning sensation Stinging sensation			I would rate the safety profile of Acular LS Ophthalmic Solution as VI
Albidin 0.25mcg Capsule	Panacea Biotech Ltd	Rash Itching Abdominal pain Increased calcium level in blood increa			I would rate the safety profile of Alphadol 0.25mcg Capsule as VERY
Ambrolite Syrup	Tablets India Limited	Vomiting Nausea Upset stomach			I would rate the safety profile of Ambrolite Syrup as VERY SAFE, as i
Atorva 20 Tablet	Zydus Cadila	Dyspepsia Abdominal pain Indigestion Diarrhea Joint pain Nasophar			I would rate the safety profile of Atorva 20 Tablet as MODERATE RIS
Arip MT 2 Tablet	Torrent Pharmaceuticals Ltd	Akathisia inability to stay still Anxiety Blurred vision Constipation Di			I would rate the safety profile of Arip MT 2 Tablet as VERY SAFE, as
Apodrops DM Eye Drop	Apanta Pharma Ltd	Eye Irritation Eye discomfort Blurred vision			I would rate the safety profile of Apodrops DM Eye Drop as VERY SAF
Albidin 10mg/5mg Tablet	Lupin Ltd	Hypoglycemia low blood glucose level Cough Nasopharyngitis Infla			I would rate the safety profile of Aljadon 10mg/5mg Tablet as SAFE,
Atormec CV10 Capsule	Macleods Pharmaceuticals Pvt Ltd	Stomach pain Diarrhea Indigestion Constipation Headache Dizziness			I would rate the safety profile of Atormec CV10 Capsule as VERY SA
Arbidol-Trio 50 Tablet ER	Micro Labs Ltd	Nausea Taste change Constipation Diarrhea Headache Dizziness We			I would rate the safety profile of Arbidol-Trio 50 Tablet ER as MODER
Apigat 2.5 Tablet	Natco Pharma Ltd	Anemia low number of red blood cells Blood in urine Bruise Nausea			I would rate the safety profile of Apigat 2.5 Tablet as MODERATE RIS
Aclolc Injection	Cadila Pharmaceuticals Ltd	Headache Diarrhea Gastrointestinal disturbance			I would rate the safety profile of Aclolc Injection as VERY SAFE, as it
Augsten-DG Suspension	Zuventus Healthcare Ltd	Abdominal pain Allergy Vomiting Nausea Diarrhea Mucocutaneous c			I would rate the safety profile of Augsten-DG Suspension as SAFE, as
Alcidex D Eye/Ear Drops	Alkem Laboratories Ltd	Application site reactions burning Irritation Itching and redness Eye i			I would rate the safety profile of Alcidex D Eye/Ear Drops as SAFE, as

# Incremental Load (Before)

We loaded a sample file with three rows, one of them being manufactured by GSK.

**Bronze**

```
SELECT COUNT(*) AS rows_before_load
FROM Bronze.DrugDatabase_Raw;
```

(just now)

Chart

1 row 90ms

#	ROWS_BEFORE_LOAD
	11825

**Gold**

```
SELECT Total_Medicines
FROM Gold.DM_Manufacturer_Performance
WHERE Manufacturer = 'GlaxoSmithKline Pharmaceuticals Ltd';
```

Results (just now)

Table Chart

0 rows 174ms

TOTAL_MEDICINES
Query produced no results

**Silver**

```
303 SELECT COUNT(*) AS rows_before_load
304 FROM Silver.DrugDatabase_Medicine_Ref;
```

Results (just now)

Table Chart

1 row 56ms

#	ROWS_BEFORE_LOAD
1	11498

# Incremental Load (After)

Bronze and Silver layers show 3 additional entries each, and Gold layer identifies one new medicine from GSK.

**Bronze**

```
10 SELECT COUNT(*) AS rows_after_load
11 FROM Bronze DrugDatabase_Raw;
12
```

Results (just now)

Table Chart 1 row 40ms

#	ROWS_AFTER_LOAD
1	11828

**Gold**

```
5
6 SELECT Total_Medicines
7 FROM Gold.DM_Manufacturer_Performance
8 WHERE Manufacturer = 'GlaxoSmithKline Pharmaceuticals Ltd';
```

Results (just now)

Table Chart 1 row 90ms

#	TOTAL_MEDICINES
1	1

**Silver**

```
13 SELECT COUNT(*) AS rows_after_load
14 FROM Silver DrugDatabase_Medicine_Ref;
15
16 -- =====
```

Results (just now)

Table Chart 1 row 99ms

#	ROWS_AFTER_LOAD
1	11501