

The Data Analyst AI Prompt Pack

6 copy-paste prompts for the work you do every week

These six prompts are pulled straight from the full Ahead at Work guide for Data Analysts. Each one is built for a real task: writing SQL, tightening a slow query, turning analysis into something a stakeholder will actually read. Replace the bracketed placeholders with your details, paste the whole prompt in, and you will get a usable first draft instead of a generic one. Always review the output before it touches production or goes to a stakeholder.

1. SQL Query Generator (Business Question to Production Query)

Act as a Senior Analytics Engineer working in [BigQuery/Snowflake/PostgreSQL/Redshift]. Here are the relevant tables and relationships:

[PASTE YOUR SCHEMA, table names, column names, data types, and how tables join]

Business question (verbatim from the stakeholder): "[PASTE THE EXACT QUESTION]"

Generate a SQL query that:

1. Handles NULLs appropriately
2. Uses CTEs for readability
3. Includes comments explaining non-obvious logic
4. Outputs business-friendly column names (no snake_case in the final SELECT)
5. Is optimized for the specified database engine

After the query, explain in 2-3 sentences what the query does and any assumptions you made.

2. SQL Query Optimizer

Act as a Data Engineer specializing in [BigQuery/Snowflake/PostgreSQL/Redshift].

This query is slow. Runtime: [X] seconds on approximately [N] million rows.

[PASTE THE FULL QUERY]

Analyze and fix:

1. Identify the top 3 performance bottlenecks with line references
2. Rewrite the query for better performance
3. Suggest indexes that would help (if applicable)
4. Explain why each change improves performance
5. Estimate the expected improvement
6. Flag any places where the optimization might change the results (and how to prevent it)

Show the optimized query with comments highlighting what changed and why.

3. Anomaly Investigation Report

A metric just spiked or dropped unexpectedly and I need to investigate.

The anomaly:

- Metric: [NAME]
- Normal range: [TYPICAL VALUES]
- Current value: [THE ANOMALOUS VALUE]
- When it started: [DATE/TIME]
- Context: [ANYTHING ELSE YOU KNOW, recent deploys, marketing campaigns, data pipeline changes]

Help me investigate by generating:

1. A structured investigation checklist (data issues first, then business causes)
2. SQL queries to diagnose common causes:
 - Check for data pipeline delays or gaps
 - Check for NULL spikes or schema changes
 - Break down the metric by key dimensions to isolate where the change is coming from
 - Compare to the same period last week and last month
3. A one-paragraph report template: what happened, the impact, the most likely cause, and recommended action

Assume I'm using [DATABASE] with tables: [PASTE RELEVANT SCHEMA].

4. Executive Summary Writer (Analysis to Action)

Act as a Business Data Analyst and Executive Communications Specialist.

My analysis notes and findings:

[PASTE YOUR RAW BULLETS, NUMBERS, AND OBSERVATIONS]

Write a one-page executive summary structured as:

1. Bottom line (2-3 sentences), what happened, so what, now what
2. Key findings (3-5 bullets), each with a specific number and business impact
3. Recommended actions (3 bullets), specific, actionable, with owners and deadlines where possible
4. Risks and caveats (2 bullets), what could make these findings wrong
5. Next steps, what analysis should follow this one

Keep it under 300 words total. My audience is [C-SUITE / VP / DEPARTMENT HEAD] who will spend 90 seconds reading this. Lead with the 'so what', not the methodology.

5. Chart Description and Insight Extractor

I have a [CHART TYPE: e.g., line chart, bar chart, scatter plot, heatmap] showing [DESCRIBE WHAT IT VISUALIZES].

Here's the underlying data:
[PASTE DATA OR KEY DATA POINTS]

Provide:

1. A chart title that communicates the key insight (not just what the chart shows, what it MEANS)
2. A 2-3 sentence description suitable for a slide deck or report that a non-technical executive could understand
3. The single most important takeaway
4. One counterargument or caveat the audience might raise, and how to address it
5. A recommended next analysis to go deeper

Write for someone who has 30 seconds to absorb this chart in a meeting.

6. Stakeholder Email: Sharing Data Findings

Write a professional email to [STAKEHOLDER ROLE: e.g., VP Marketing, Product Manager, CFO] sharing the results of a data analysis.

Context:

- What they asked for: [ORIGINAL REQUEST]
- What I found: [KEY FINDINGS, 3-5 bullets]
- Any surprises or concerns: [UNEXPECTED RESULTS]
- Caveats or data limitations: [WHAT COULD BE WRONG]
- Recommended next steps: [WHAT SHOULD HAPPEN NOW]

Requirements:

- Under 200 words
- Lead with the answer to their question in the first sentence, don't bury the lead
- Put numbers in bold or use a small table for easy scanning
- If findings contradict their hypothesis, frame it diplomatically but don't sugarcoat
- End with clear next steps and who owns each one
- Subject line: specific and results-oriented (not 'Data Update' or 'FYI')

This is six of seventeen

The full Data Analyst guide has all seventeen prompts, honest reviews of thirteen AI tools with current prices, the workflows that string these prompts together, and a 30-day plan to build the habit. One-time purchase, instant download.

Get the full guide. \$29

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