

# Introduction

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Globally, the demand for Data Analysts continues to rise as organizations depend on data insights to stay competitive. The same trend is evident in the Philippines, where companies are increasingly adopting analytics to improve decision making and understand consumer behavior. As a job seeker, this study helps me examine Data Analyst job postings in 2023 and identify key skills, opportunities, and salary trends in the Philippine market.

## Background

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The COVID-19 pandemic accelerated global digital adoption, driving a surge in online activity and a significant rise in data generation. As industries in the Philippines adapted to this shift, the need for data-driven decision making grew, reinforcing the importance of Data Analysts in the post-pandemic workforce.

As a job seeker, this study helps me understand the Philippine landscape by identifying the top paying Data Analyst roles in 2023 and the skills they require. It also considers global trends to determine which analytics skills are most in demand and offer the highest earning potential worldwide.

The questions I wanted to answer through my SQL query were:

1. What are the top-paying data analyst job posted in AI-jobs.net located in the Philippines in 2023?
2. What are the skills of the top-paying data analyst job posted in AI-jobs.net located in the Philippines in 2023?
3. What are the top in demand skills for data analyst in 2023?
4. What are the top paying skills for data analyst in 2023?
5. What is the most optimal skills to learn? Both highest paying and in demand skill.

## Tools/Tech Stack

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- **SQL** – The primary query language used to retrieve, filter, and analyze data from the database.
- **PostgreSQL** – The relational database management system (RDBMS) used to store, process, and manage the dataset.
- **pgAdmin** – The graphical user interface (GUI) tool used to access and manage the PostgreSQL database and execute SQL queries.
- **Visual Studio Code (VS Code)** – Used as the main editor for writing SQL scripts and organizing project files.
- **Git & GitHub** – Used for version control to track changes and maintain version history throughout the project.

# The Analysis

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## 1. What are the top-paying data analyst job posted in AI-jobs.net located in the Philippines in 2023?

I first identified the highest-paying Data Analyst roles posted in AI-jobs.net for 2023. The query filters job titles containing both "Data" and "Analyst", focuses on postings located in the Philippines, and sorts them by annual salary.

```

SELECT
    job_title,
    TO_CHAR(salary_year_avg, '$999,999,999') AS salary_year_avg,
    job_posted_date::DATE AS job_posted_date,
    company_dim.name AS company_name,
    job_location,
    job_country
FROM
    job_postings_fact
LEFT JOIN company_dim ON company_dim.company_id = job_postings_fact.company_id
WHERE
    job_title LIKE '%Data%'
    AND job_title LIKE '%Analyst%'
    AND job_country = 'Philippines'
    AND salary_year_avg IS NOT NULL
ORDER BY
    salary_year_avg DESC
LIMIT 10;

```

### Output:

job_title	salary_year_avg	job_posted_date	company_name	job_location	job_country
Data Analyst, Customer Experience	\$ 111,175	2023-03-03	Dialpad	Manila, Metro Manila, Philippines	Philippines
Senior Data Analyst - Artificial Intelligence COE	\$ 111,175	2023-04-26	Security Bank	Makati, Metro Manila, Philippines	Philippines
Data Analyst	\$ 111,175	2023-02-13	Trusting Social	Manila, Metro Manila, Philippines	Philippines
Data Analyst (Procurement/Logistics)	\$ 111,175	2023-08-25	Pilmico Foods Corporation	Tarlac City, Tarlac, Philippines	Philippines
Data Analyst	\$ 111,175	2023-05-08	Canva	Manila, Metro Manila, Philippines	Philippines
Data Analyst (Taiwanese)	\$ 111,175	2023-02-24	iOPEX	Taguig, Metro Manila, Philippines	Philippines
Data Analyst	\$ 111,175	2023-01-17	Curated	Philippines	Philippines
Data Analyst	\$ 100,500	2023-08-18	Thunes	Manila, Metro Manila, Philippines	Philippines
Data Analyst	\$ 100,500	2023-06-15	Angkas	Makati, Metro Manila, Philippines	Philippines
Wholesale Data Analyst	\$ 100,500	2023-07-06	Truphone	Manila, Metro Manila, Philippines	Philippines

This establishes the benchmark for top-tier salaries and highlights which companies and job positions offer the most competitive compensation in the country.

## 2. What are the skills of the top-paying data analyst job posted in AI-jobs.net located in the Philippines in 2023?

After identifying the top-paying roles, I examined the skills associated with those same job IDs. This reveals which technical and analytical skills are most valued by employers offering the highest salaries.

```
WITH top_paying_job AS (
    SELECT
        job_id,
        job_title,
        TO_CHAR(salary_year_avg, '$999,999,999') AS salary_year_avg,
        job_posted_date::DATE AS job_posted_date,
        company_dim.name AS company_name,
        job_location,
        job_country
    FROM
        job_postings_fact
    LEFT JOIN company_dim ON company_dim.company_id = job_postings_fact.company_id
    WHERE
        job_title LIKE '%Data%'
        AND job_title LIKE '%Analyst%'
        AND job_country = 'Philippines'
        AND salary_year_avg IS NOT NULL
    ORDER BY
        salary_year_avg DESC
    LIMIT 10)

SELECT
    skills,
    type,
    COUNT.skills AS num_jobs_req_skills
FROM
    top_paying_job
    JOIN
        skills_job_dim ON top_paying_job.job_id = skills_job_dim.job_id
    JOIN
        skills_dim ON skills_job_dim.skill_id = skills_dim.skill_id
GROUP BY
    skills, type
ORDER BY
    COUNT.skills DESC
; 
```

skills	type	num_jobs_req_s...
a <b>c</b> Filter...	a <b>c</b> Filter...	a <b>c</b> Filter...
sql	programming	7
python	programming	5
r	programming	5
tableau	analyst_tools	4
excel	analyst_tools	3
powerpoint	analyst_tools	2
power bi	analyst_tools	2
sas	programming	1
sheets	analyst_tools	1
snowflake	cloud	1
word	analyst_tools	1
bigrquery	cloud	1
zoom	sync	1
c	programming	1
flow	other	1
jira	async	1
looker	analyst_tools	1
qlik	analyst_tools	1
sas	analyst_tools	1
<b>Output:</b>		

This step shows the specific tools and programming languages that consistently appear among the highest-paying positions, giving insight into what skills employers consider essential at the top salary level.

### 3. What are the top in demand skills for data analyst in 2023?

To understand overall demand, I counted how often each skill appeared in all global Data Analyst postings in 2023. This identifies the skills that companies request most frequently.

```
WITH data_analyst_job AS (
SELECT *
FROM job_postings_fact
WHERE job_title_short = 'Data Analyst'
    AND EXTRACT(YEAR FROM job_posted_date) = 2023
)
```

```

SELECT
    skills, type, COUNT.skills) AS demand_counts
FROM
    data_analyst_job
    JOIN skills_job_dim ON skills_job_dim.job_id = data_analyst_job.job_id
    JOIN skills_dim ON skills_dim.skill_id = skills_job_dim.skill_id
GROUP BY
    skills, type
ORDER BY
    COUNT.skills DESC
LIMIT 10;

```

skills	type	demand_counts
abc Filter...	abc Filter...	abc Filter...
sql	programming	92439
excel	analyst_tools	66867
python	programming	57189
tableau	analyst_tools	46459
power bi	analyst_tools	39381
r	programming	30007
sas	programming	13997
sas	analyst_tools	13997
powerpoint	analyst_tools	13818
word	analyst_tools	13564

This ranking highlights the foundational skills every aspiring Data Analyst should prioritize.

#### 4. What are the top paying skills for data analyst in 2023?

Next, I calculated the average salary associated with each skill across all job postings. This identifies which skills tend to correspond with higher compensation.

```

WITH data_analyst_job AS (
SELECT
    *
FROM
    job_postings_fact
WHERE
    job_title_short = 'Data Analyst'
    AND EXTRACT(YEAR FROM job_posted_date) = 2023
    AND salary_year_avg IS NOT NULL
)
SELECT

```

```

skills, type, TO_CHAR(ROUND(AVG(salary_year_avg), 0), '$999,999,999') AS
avg_pay_skill
FROM
  data_analyst_job
  JOIN skills_job_dim ON skills_job_dim.job_id = data_analyst_job.job_id
  JOIN skills_dim ON skills_dim.skill_id = skills_job_dim.skill_id
GROUP BY
  skills, type
ORDER BY
  avg_pay_skill DESC
LIMIT 10
;

```

skills	type	avg_pay_skill
a(bc Filter...	a(bc Filter...	a(bc Filter...
svn	other	\$ 400,000
solidity	programming	\$ 179,000
couchbase	databases	\$ 160,515
datarobot	analyst_tools	\$ 155,486
golang	programming	\$ 155,000
mxnet	libraries	\$ 149,000
dplyr	libraries	\$ 147,633
vmware	cloud	\$ 147,500
terraform	other	\$ 146,734
twilio	sync	\$ 138,500
<b>Output:</b>		

This reveals which specialized or advanced skills provide the strongest salary advantage.

## 5. What is the most optimal skills to learn? Both highest paying and in demand skill.

Finally, I combined the most in-demand skills and highest-paying skills to determine which skills score highly in both categories. Ranking them using a combined metric (demand × average salary) identifies the most optimal skills for a job seeker to learn.

```

WITH data_analyst_job AS (
SELECT
  *
FROM
  job_postings_fact
WHERE
  job_title_short = 'Data Analyst'
  AND EXTRACT(YEAR FROM job_posted_date) = 2023
  AND salary_year_avg IS NOT NULL
  AND job_work_from_home =TRUE
;
```

```
),

in_demand_skill AS (
SELECT
    skills_dim.skill_id, skills_dim.skills, skills_dim.type, COUNTskills) AS
demand_counts
FROM
    data_analyst_job
    JOIN skills_job_dim ON skills_job_dim.job_id = data_analyst_job.job_id
    JOIN skills_dim ON skills_dim.skill_id = skills_job_dim.skill_id
GROUP BY
    skills_dim.skill_id, skills_dim.skills, skills_dim.type
ORDER BY
    COUNTskills) DESC
),

highest_paying_skill AS (
SELECT
    skills_dim.skill_id, skills_dim.skills, skills_dim.type,
ROUND(AVGsalary_year_avg), 0) AS avg_pay_skill
FROM
    data_analyst_job
    JOIN skills_job_dim ON skills_job_dim.job_id = data_analyst_job.job_id
    JOIN skills_dim ON skills_dim.skill_id = skills_job_dim.skill_id
GROUP BY
    skills_dim.skill_id, skills_dim.skills, skills_dim.type
ORDER BY
    avg_pay_skill DESC
)

SELECT
    highest_paying_skill.skills, highest_paying_skill.type
    FROM in_demand_skill
    JOIN highest_paying_skill ON highest_paying_skill.skill_id =
in_demand_skill.skill_id
ORDER BY
    (demand_counts * avg_pay_skill) DESC
LIMIT 10
;
```

## Output:

skills	type	demand_counts	avg_pay_skill
abc Filter...	abc Filter...	abc Filter...	abc Filter...
sql	programming	398	97237
python	programming	236	101397
tableau	analyst_tools	229	99407
excel	analyst_tools	255	87349
r	programming	148	100499
power bi	analyst_tools	109	97666
sas	analyst_tools	63	98902
sas	programming	63	98902
powerpoint	analyst_tools	58	88701
looker	analyst_tools	49	103795

This step highlights the skills that offer the best balance of competitiveness and earning potential.

## What I learned

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As a job seeker, analyzing the Philippine data taught me that the country's top-paying Data Analyst roles in 2023 offered salaries of \$111,175, and these positions appeared across companies like Security Bank, Dialpad, Canva, Trusting Social, and iOPEX. Even though the results were limited to only the top 10 highest-paying roles, the skill requirements already showed a clear pattern: SQL appeared the most (7 occurrences), followed by Python and R (each 5 occurrences) as well as tools like Tableau (4) and Excel (3). This means that in the Philippines, even at the highest salary tier, employers still prioritize strong core analytical and programming foundations.

From the global range, I learned that the trend was still clear: skills like SQL, Excel, Python, Tableau, and Power BI consistently appeared at the top of the "most in-demand" lists. For the highest-paying skills, the data showed that specialized or niche technologies such as SVN, Solidity, and Couchbase received the highest average salary values within the limited result set. When both demand and pay were combined, the skills that ranked best were SQL, Python, and Tableau, these skills consistently provide strong balance between demand and compensation.

## Conclusions

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From the Philippine results, I concluded that to be competitive locally especially for top-paying roles that I must master the core fundamentals are SQL, Python, R, Tableau, and Excel. These appeared repeatedly even within a small sample of the highest-paying jobs, proving that Philippine employers value strong foundational skills rather than niche technologies.

From the global results, I concluded that while some niche skills can offer extremely high salaries, their demand is not broad based on the limited output available. The skills that consistently appear in both the global "in-demand" list and the global "high-paying" list such as SQL, Python, and Tableau. They represent the

most stable and strategic skills for me to prioritize. These skills not only appear frequently even in a limited dataset but also rank highly in salary potential, making them the strongest long-term investment for my career.