

Mini Portfolio



Salary Analysis For Data Analyst Positions



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STUDI KASUS

Studi kasus ini focus pada beberapa aspek, yaitu:

- Identifikasi dan pembersihan data.
- Analisis deskriptif mengenai job title dan gaji
- Analisis lebih mendalam mengenai pengaruh pengalaman dan jenis pekerjaan terhadap gaji.
- Analisis geografis yang menentukan negara-negara dengan gaji yang menarik
- Analisis temporal untuk menentukan tahun dengan kenaikan gaji tertinggi dari mid-level ke senior-level.

Informasi Dataset

Column	Description
work_year	Tahun pembayaran gaji
experience_level	Tingkat pengalaman pada pekerjaan selama tahun tersebut. Nilai-nilai pada kolom ini: (1) EN Entry-level / Junior, (2) MI Mid-level / Intermediate, (3) SE Senior-level / Expert, (4) EX Executive-level / Director
employment_type	Tipe hubungan kerja: (1) PT Part-time, (2) FT Full-time, (3) CT Contract, (4) FL Freelance
job_title	Posisi / peran selama tahun tersebut
salary	Total gaji kotor (<i>gross salary</i>) yang didapatkan
salary_currency	Mata uang (ISO 4217)

Column	Description
salary_in_usd	Gaji dalam USD (FX rate divided by avg. USD rate for the respective year via fxdata.foorilla.com).
employee_residence	Domisili utama karyawan (negara) selama tahun tersebut (ISO 3166 country code)
remote_ratio	Rasio bekerja <i>remote</i> keseluruhan, dengan: (1) 0 berarti tidak <i>remote</i> / kurang dari 20%, (2) 50 <i>remote</i> Sebagian, (3) 100 <i>remote</i> penuh / lebih dari 80%
company_location	Negara perusahaan (main office / contracting branch) (ISO 3166 country code)
company_size	Rata-rata jumlah pekerja pada tahun tersebut, dengan: (1) S (small / kurang dari 50 karyawan), (2) M (medium) (antara 50 to 250 karyawan), dan (3) L (lebih dari 250 karyawan)

LATIHAN SQL

Pertanyaan 1:
Apakah ada data yang NULL?

```
select * from ds_salaries where  
    work_year IS NULL  
    OR experience_level IS NULL  
    OR employment_type IS NULL  
    OR job_title IS NULL  
    OR salary IS NULL  
    OR salary_currency IS NULL  
    OR salary_in_usd IS NULL  
    OR employee_residence IS NULL  
    OR remote_ratio IS NULL  
    OR company_location IS NULL  
    OR company_size IS NULL;
```

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	MyUnknownColumn	work_year	experience_level	employment_type	job_title	salary	salary_currency	salary_in_usd	employee_residence	re

LATIHAN SQL

Pertanyaan 2:
Apa saja job title yang ada?

```
select distinct job_title  
from ds_salaries  
order by job_title;
```

	job_title
▶	3D Computer Vision Researcher
	AI Scientist
	Analytics Engineer
	Applied Data Scientist
	Applied Machine Learning Scientist
	BI Data Analyst
	Big Data Architect
	Big Data Engineer

ds_salaries3 x

LATIHAN SQL

Pertanyaan 3:

Job title apa saja yang berkaitan dengan data analyst?

```
select distinct job_title
  from ds_salaries
 where job_title
 like "%Data Analyst%"
 order by job_title;
```

	job_title
▶	BI Data Analyst
	Business Data Analyst
	Data Analyst
	Finance Data Analyst
	Financial Data Analyst
	Lead Data Analyst
	Marketing Data Analyst
	Principal Data Analyst

ds_salaries4 x

LATIHAN SQL

Pertanyaan 4:
Berapa rata-rata gaji data analyst per bulan?

```
select (avg(salary_in_usd)* 15000)/12  
as rerata_gaji_data_analyst  
from ds_salaries  
where job_title  
like "%Data Analyst%";
```

	rerata_gaji_data_analyst
▶	116500472.68907500

LATIHAN SQL

Pertanyaan 5:

Berapa rata-rata gaji data analyst berdasarkan experience level dan jenis employment?

```
select experience_level, (avg(salary_in_usd)* 15000)/12
as rata2_perbulan
from ds_salaries
where job_title
like "%Data Analyst%"
group by experience_level;
```

	experience_level	rata2_perbulan
▶	MI	97425945.12195000
	EN	71389852.94117625
	EX	162500000.00000000
	SE	140826982.75862000

LATIHAN SQL

Pertanyaan 6:

Berapa rata-rata gaji data analyst berdasarkan experience level dan jenis employment?

```
select experience_level, employment_type,  
       (avg(salary_in_usd)* 15000)/12 as rerata_perbulan  
from ds_salaries where job_title like "%Data Analyst%"  
group by experience_level, employment_type  
order by experience_level, employment_type;
```

	experience_level	employment_type	rerata_perbulan
▶	EN	CT	125000000.00000000
	EN	FT	71712333.33333250
	EN	PT	12942500.00000000
	EX	FT	162500000.00000000
	MI	FT	97425945.12195000
	SE	FT	140826982.75862000

LATIHAN SQL

Pertanyaan 7:
negara apa yang menarik untuk posisi data analyst?

```
select company_location, avg(salary_in_usd) as gaji_terbesar
from ds_salaries where
    job_title like "%Data Analyst"
    and employment_type = 'FT'
    and experience_level in ('MI', 'EN')
group by company_location
having gaji_terbesar > 20000;
```

	company_location	gaji_terbesar
▶	US	101397.2069
	FR	52930.5000
	GB	50875.6000
	LU	59102.0000
	ES	38470.0000
	GR	32313.3333
	CA	70818.6667

LATIHAN SQL

Pertanyaan 8:
Di tahun berapa, kenaikan gaji dari mid ke senior itu memiliki kenaikan yang tertinggi?

```
WITH ds_1 AS (  
    SELECT  
        work_year,  
        AVG(salary_in_usd) sal_in_usd_ex  
    FROM  
        ds_salaries  
    WHERE  
        employment_type = 'FT'  
        AND experience_level = 'EX'  
        AND job_title LIKE '%data analyst%'  
    GROUP BY  
        work_year  
,  
    ds_2 AS (  
        SELECT  
            work_year,  
            AVG(salary_in_usd) sal_in_usd_mi  
        FROM  
            ds_salaries  
        WHERE  
            employment_type = 'FT'  
            AND experience_level = 'MI'  
            AND job_title LIKE '%data analyst%'  
        GROUP BY  
            work_year  
,  
    t_year AS (  
        SELECT  
            DISTINCT work_year  
        FROM  
            ds_salaries  
    )  
    SELECT  
        t_year.work_year,  
        ds_1.sal_in_usd_ex,  
        ds_2.sal_in_usd_mi,  
        ds_1.sal_in_usd_ex - ds_2.sal_in_usd_mi differences  
    FROM  
        t_year  
    LEFT JOIN ds_1 ON ds_1.work_year = t_year.work_year  
    LEFT JOIN ds_2 ON ds_2.work_year = t_year.work_year;
```

	work_year	sal_in_usd_ex	sal_in_usd_mi	differences
▶	2020	NULL	60728.8750	NULL
	2021	150000.0000	108398.8182	41601.1818
	2022	120000.0000	68970.5909	51029.4091



Thank You ↗