

Exploring Salary Trends and Employment Insights in Australia and New Zealand

A Data-Driven Analysis of Job Titles, Remote Work, and
Employment Patterns

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Mission and Vision

Mission

To provide a comprehensive analysis of salary trends, job title prevalence, and the impact of remote work on employment in Australia and New Zealand. By leveraging data-driven insights, I aim to identify key patterns and trends that can inform strategic decision-making for businesses and employees.

Vision

To empower organizations and individuals in Australia and New Zealand with actionable insights into the employment landscape, fostering informed decisions that enhance job satisfaction, optimize compensation strategies, and adapt to evolving work environments.



```
1 -- 1. Calculate the average salary in USD by job title and work year.  
2  
3 • SELECT s.work_year, j.job_title, ROUND(AVG(s.salary_in_usd), 0) AS avg_salary  
4 FROM salary s  
5 JOIN job_title j ON s.work_year = j.work_year  
6 GROUP BY j.job_title, s.work_year  
7 ORDER BY work_year DESC;  
8  
9  
10
```

Result Grid | Filter Rows: Export: Wrap Cell Content:

work_year	job_title	avg_salary
2024	Business Intelligence Analyst	130471
2024	Data Scientist	130471
2024	Data Analyst	130471
2024	Data Specialist	130471
2024	Machine Learning Engineer	130471
2024	Data Engineer	130471
2024	Data Architect	130471
2024	Prompt Engineer	130471
2024	Data Analyst Lead	130471
2024	Research Engineer	130471
2023	Data Scientist	157909
2023	ML Engineer	157909
2023	Data Analyst	157909
2023	Machine Learning Engineer	157909
2023	AI Scientist	157909
2023	AI Programmer	157909
2023	Software Data Engineer	157909
2022	AI Programmer	88339
2022	Machine Learning Developer	88339
2022	Data Scientist	88339
2022	Data Science Manager	88339
2022	Machine Learning Engineer	88339
2022	Computer Vision Software E...	88339
2022	BI Data Analyst	88339
2022	Data Analyst	88339
2021	Data Engineer	58539
2021	Data Analyst	58539
2020	Lead Data Engineer	125000





```
1      -- 2. Identify the top 5 highest paying job titles in each year.
2
3 •  SELECT
4      s.work_year, j.job_title, MAX(s.salary_in_usd) AS max_salary
5  FROM
6      salary s
7      JOIN
8          job_title j ON s.work_year = j.work_year
9  GROUP BY s.work_year , j.job_title
10 ORDER BY max_salary DESC
11 LIMIT 5;
12
```

Result Grid | Filter Rows: Export: Wrap Cell Content: Fetch rows:

	work_year	job_title	max_salary
▶	2023	Data Scientist	300000
	2023	ML Engineer	300000
	2023	Data Analyst	300000
	2023	Machine Learning Engineer	300000
	2023	AI Scientist	300000



1 -- 3. Determine the average remote ratio for each company size across different work years.

2

3 • **SELECT**

4 remote_ratio,

5 company_size,

6 **CASE**

7 WHEN remote_ratio = 100 THEN 'fully_remote_work'

8 WHEN remote_ratio = 50 THEN 'partially_remote_work'

9 WHEN remote_ratio = 0 THEN 'no_remote_work'

10 ELSE 'other' -- Optional: handle other unexpected values

11 **END AS** remote_work_category

12 **FROM**

13 company

14 **GROUP BY**

15 company_size, remote_ratio

16 **ORDER BY**

17 remote_work_category, company_size ;

18

: |

Result Grid | Filter Rows: Export: Wrap Cell Content:

remote_work_category	remote_ratio	company_size
fully_remote_work	100	L
fully_remote_work	100	M
fully_remote_work	100	S
no_remote_work	0	L
no_remote_work	0	M
no_remote_work	0	S
partially_remote_work	50	L
partially_remote_work	50	M
partially_remote_work	50	S



```
1      -- 4. Find the average salary for employees working remotely vs. on-site for each year
2
3 •  SELECT
4      c.work_year,
5      CASE
6          WHEN c.remote_ratio = 0 THEN 'On-site'
7          WHEN c.remote_ratio > 0 THEN 'Remote'
8      END AS work_type,
9      round(AVG(s.salary_in_usd)) AS avg_salary_in_usd
10     FROM
11         salary s
12     JOIN
13         company c ON s.work_year = c.work_year
14     GROUP BY
15         c.work_year, work_type
16     ORDER BY
17         c.work_year;
18
```

Result Grid | Filter Rows: Export: Wrap Cell Content:

work_year	work_type	avg_salary_in_usd
2020	Remote	125000
2021	Remote	58539
2022	On-site	88339
2022	Remote	88339
2023	On-site	157909
2023	Remote	157909
2024	On-site	130471
2024	Remote	130471



1 -- 5. Identify the trend in salary over the years for different employment types

2

3 • **SELECT**

4 s.work_year,

5 j.employment_type,

6 round(AVG(s.salary_in_usd)) **AS** avg_salary_in_usd

7 **FROM**

8 salary s

9 **JOIN**

10 job_title j **ON** s.work_year = j.work_year

11 **GROUP BY**

12 s.work_year, j.employment_type

13 **ORDER BY**

14 s.work_year, j.employment_type;

Result Grid | Filter Rows: Export: Wrap Cell Content:

work_year	employment_type	avg_salary_in_usd
2020	FT	125000
2021	FT	58539
2022	FT	88339
2023	FL	157909
2023	FT	157909
2024	CT	130471
2024	FT	130471

```

1 -- 6. Compare the average salary and experience level distribution between AU and NZ locations over the years.
2
3 • SELECT
4     s.work_year,
5     c.company_location,
6     j.experience_level,
7     ROUND(AVG(s.salary_in_usd)) AS avg_salary_in_usd
8
9 FROM
10    salary s
11 JOIN
12      job_title j ON s.work_year = j.work_year
13 JOIN
14      company c ON s.work_year = c.work_year
15 GROUP BY
16     s.work_year, c.company_location, j.experience_level
17 ORDER BY
18     c.company_location,
19     FIELD(j.experience_level, 'EN', 'MI', 'SE'),
20     s.work_year;

```

Result Grid | Filter Rows: Export: Wrap Cell Content:

work_year	company_location	experience_level	avg_salary_in_usd
2021	AU	EN	58539
2022	AU	EN	88339
2023	AU	EN	157909
2024	AU	EN	130471
2021	AU	MI	58539
2022	AU	MI	88339
2023	AU	MI	157909
2024	AU	MI	130471
2022	AU	SE	88339
2023	AU	SE	157909
2024	AU	SE	130471
2023	NZ	EN	157909
2024	NZ	EN	130471
2023	NZ	MI	157909
2024	NZ	MI	130471
2020	NZ	SE	125000
2023	NZ	SE	157909
2024	NZ	SE	130471





```
1 -- 7. Find the most common job titles for different company sizes and their respective average salaries.
2
3 • SELECT
4     t.company_size,
5     t.job_title,
6     t.avg_salary_in_usd
7 FROM (
8     SELECT
9         c.company_size,
10        j.job_title,
11        ROUND(AVG(s.salary_in_usd)) AS avg_salary_in_usd,
12        COUNT(*) AS job_count,
13        ROW_NUMBER() OVER (PARTITION BY c.company_size ORDER BY COUNT(*) DESC) AS `rank`
14     FROM
15         job_title j
16     JOIN
17         company c ON j.work_year = c.work_year
18     JOIN
19         salary s ON j.work_year = s.work_year
20     GROUP BY
21         c.company_size, j.job_title
22 ) t
23 WHERE
24     t.`rank` = 1
25 ORDER BY
26     t.company_size;
```

Result Grid | Filter Rows: Export: Wrap Cell Content:

company_size	job_title	avg_salary_in_usd
L	Data Scientist	139159
M	Data Scientist	137489
S	Data Scientist	129058



```

1   -- 8. Calculate the median salary for different experience levels in each year.
2
3 • WITH ranked_salaries AS (
4     SELECT
5         s.work_year,
6         j.experience_level,
7         s.salary_in_usd,
8         ROW_NUMBER() OVER (PARTITION BY s.work_year, j.experience_level ORDER BY s.salary_in_usd) AS row_num,
9         COUNT(*) OVER (PARTITION BY s.work_year, j.experience_level) AS total_count
10    FROM
11        salary s
12    JOIN
13        job_title j ON j.work_year = s.work_year
14)
15    SELECT
16        work_year,
17        experience_level,
18        ROUND(AVG(salary_in_usd)) AS avg_salary,
19        -- Median calculation
20        ROUND(AVG(CASE
21            WHEN total_count % 2 = 1 AND row_num = (total_count + 1) / 2 THEN salary_in_usd
22            WHEN total_count % 2 = 0 AND row_num IN (total_count / 2, total_count / 2 + 1) THEN salary_in_usd
23        END)) AS median_salary
24    FROM
25        ranked_salaries
26    GROUP BY
27        work_year,
28        experience_level
29    ORDER BY
30        experience_level;

```

Result Grid | Filter Rows: Export: Wrap Cell Content:

work_year	experience_level	avg_salary	median_salary
2021	EN	58539	58539
2022	EN	88339	83171
2023	EN	157909	133367
2024	EN	130471	118130
2021	MI	58539	58539
2022	MI	88339	83171
2023	MI	157909	133367
2024	MI	130471	118130
2020	SE	125000	125000
2022	SE	88339	83171
2023	SE	157909	133367





```
1      -- 9. Analyze the impact of remote work on salaries by comparing average salaries for different remote ratios.
2
3 • SELECT
4      remote_work_category,
5      ROUND(AVG(salary_in_usd)) AS avg_sal
6  FROM (
7      SELECT
8          s.salary_in_usd,
9          CASE
L0          WHEN c.remote_ratio = 100 THEN 'fully_remote_work'
L1          WHEN c.remote_ratio = 50 THEN 'partially_remote_work'
L2          WHEN c.remote_ratio = 0 THEN 'no_remote_work'
L3          ELSE 'other' -- Optional: handle other unexpected values
L4      END AS remote_work_category
L5      FROM
L6          company c
L7      JOIN
L8          salary s ON c.work_year = s.work_year
L9  ) AS subquery
20  GROUP BY
21      remote_work_category
22  ORDER BY
23      remote_work_category;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

remote_work_category	avg_sal
fully_remote_work	119829
no_remote_work	137620
partially_remote_work	125085



Limit to 50 rows

```
1      -- 10. Find the highest paying job titles in each company location and their respective salaries.
2
3 • SELECT
4      j.job_title,
5      c.company_location,
6      MAX(s.salary_in_usd) highest_sal
7  FROM
8      job_title j
9      JOIN
10     company c ON c.work_year = j.work_year
11     JOIN
12     salary s ON s.work_year = j.work_year
13 GROUP BY j.job_title , c.company_location
14 ORDER BY j.job_title , c.company_location , highest_sal;
```

job_title	company_location	highest_sal
AI Programmer	AU	300000
AI Programmer	NZ	300000
AI Scientist	AU	300000
AI Scientist	NZ	300000
BI Data Analyst	AU	171000
Business Intelligence Analyst	AU	270000
Business Intelligence Analyst	NZ	270000
Computer Vision Software Engineer	AU	171000
Data Analyst	AU	300000
Data Analyst	NZ	300000
Data Analyst Lead	AU	270000
Data Analyst Lead	NZ	270000
Data Architect	AU	270000
Data Architect	NZ	270000
Data Engineer	AU	270000
Data Engineer	NZ	270000
Data Science Manager	AU	171000
Data Scientist	AU	300000
Data Scientist	NZ	300000
Data Specialist	AU	270000
Data Specialist	NZ	270000
Lead Data Engineer	NZ	125000
Machine Learning Developer	AU	171000
Machine Learning Engineer	AU	300000
Machine Learning Engineer	NZ	300000
ML Engineer	AU	300000
ML Engineer	NZ	300000
Prompt Engineer	AU	270000
Prompt Engineer	NZ	270000
Research Engineer	AU	270000
Research Engineer	NZ	270000
Software Data Engineer	AU	300000
Software Data Engineer	NZ	300000



Key Takeways

- ▶ Remote work influences salary structures, often resulting in higher or comparable pay for remote employees in Australia and New Zealand.
- ▶ High-paying job titles and average salaries vary annually, highlighting the importance of continuous skill development to stay competitive.