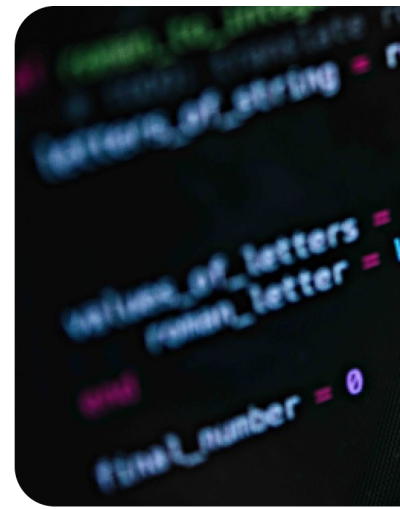


Project Analysis Insights

Salaries in AI, ML, and Big Data



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Insights

1. **OVERALL:**

The dataset doesn't have a primary key.

Null values weren't found.

Duplicates were found, and removed from the dataset.

Outliers were found, and therefore removed from the dataset.

2. **SALARIES:**

The minimum salary is \$24k and the maximum is \$750k, with an average of \$147k.

The metrics we analysed such as experience levels, employment types, company sizes and work models do influence the salaries.

3. **GEOGRAPHICAL LOCATION:**

On the first approach to the data analysis we realised that, although we had entries from 85 countries regarding the employees and 77 countries regarding companies, the majority of the entries was from the US, with 83.4%, which creates a major geographical disparity.

For that reason we decided to analyse just the US data.

4. **WORK MODEL:**

The data revealed that more than half of the jobs are onsite, while 32.3% are fully remote and just about 0.43% is hybrid. Salary definitely varies depending on the remote work option.

On average, the employees that work onsite have a higher salary, while the employees working on Hybrid have the lowest, being the fully remote workers in between.

The remote work model offers lower, but very similar salaries, to the onsite model, having the experience level as an influence factor.

5. **COMPANY SIZE:**

Company sizes are divided in three categories, Small, Medium and Large.

Upon analysis, it was revealed that company size did affect the average salary but not in the expected order.

Medium sized companies paid the highest salary followed by Large companies.

Across the three company sizes, the employees that work onsite earn more.

Since 2022, Small and Large companies tend to offer higher salaries to Executive level positions.

There's a noticeable difference regarding Intermediate and Senior roles' salaries, with Small companies paying less than the Medium and Large ones.



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1. **EXPERIENCE LEVEL:**
Executive level under full-time employment type have the highest salaries regarding the other levels.
The Executive level was the only one that didn't have a salary decrease from 2020 to 2021, while all the other experienced a decrease.
By the other hand, the Executive level suffered a salary decrease from 2021 to 2022, recovering only in 2023.
Senior is the level with the most workers on the market, with executive having the fewest workers.
2. **EMPLOYMENT TYPE:**
Full-time positions consistently offer better salaries, regardless of the experience level of the employee. This can be due to full-time employment being the most preferred option in the US over the past years.
3. **JOB TITLE:**
The data shows that Data Scientist, Data Analyst, and Data Engineer are the most prominent career paths within the US IT market in 2024.
4. **YEAR:**
The IT term was first published in 1958 in the Harvard Business Review, however we have witnessed a boom in this sector's roles the past years.
Breakthroughs in artificial intelligence, cloud computing, blockchain... have propelled the industry forward, resulting in increased job opportunities across various domains, including software development, data science, cybersecurity, and project management. Skilled professionals are in high demand, leading to competitive salaries and benefits.
Between 2020 and 2022 the number of employees in remote work was bigger than the onsite work. That may be attributed to Covid-19 lockdown, once in the following years onsite overtakes the remote.
From the last months of 2020 until the middle of 2021, the hybrid work model had a higher salary than onsite and remote. After mid 2021 the hybrid model was surpassed by both onsite and remote although in the last few months it became the highest salary again.
5. **COMPARATIVE INSIGHTS (2023):**
Salaries do differ regarding the job titles and employees' experience level.
As an junior employee, the highest paid role is Applied Scientist while Data Analyst has the lowest salary.
In the Intermediate experience category, Machine Learning Scientist is the highest paid role while Data Specialist is the least paid role.
In the Senior level, the highest paying role is Head of Data while Data Specialist is the least paid role.
Finally, the Executive level has the Head of Data as the highest paying role, and Data Analyst as the lowest.
The top 5 highest paid titles are Data Scientist, Data Engineer, Machine Learning Scientist, Data Analyst, and Research Scientist belonging the lowest paid role to the AI Scientist.
6. **COMPARATIVE INSIGHTS (2024):**
Salaries do differ regarding the job titles and employees' experience level.
As an junior employee, the highest paid role is Data Analyst while AI Engineer has the lowest salary.
In the Intermediate experience category, Machine Learning Scientist is the highest paid role while Master Data Specialist is the least paid role.
In the Senior level, the highest paying role is Machine Learning Manager while Data Manager is the least paid role.
Finally, the Executive level has the Machine Learning Engineer as the highest paying role, and BI Engineer as the lowest.
The top 5 highest paid titles are Data Scientist, Data Analyst, Data Engineer, Machine Learning Engineer, and Research Scientist, belonging the lowest paid role to the AI Engineer.



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Chosen Top 3 Insights:

WORK MODEL:

The data revealed that (in THE US, from the last few years until 2024), more than half of the jobs are onsite, while 32.3% are fully remote and just about 0.43% is hybrid.

Salary definitely varies depending on the remote work option.

On average, the employees that work onsite have a higher salary, while the employees working on hybrid have the lowest, being the fully remote workers in between.

The remote work model offers lower, but very similar salaries, to the onsite model, having the experience level as an influence factor.

COMPANY SIZE:

Company sizes are divided in three categories, Small, Medium and Large.

Upon analysis, it was observed that (in THE US, from the last few years until 2024) company size did affect the average salary but not in the expected order.

Medium sized companies paid the highest salary followed by Large companies.

- Across the three company sizes, the employees who earn the most are the ones that work onsite.
- Since 2022, Small and Large companies tend to offer higher salaries to Executive level positions.
- There's a noticeable difference regarding Intermediate and Senior roles' salaries, with Small companies paying less than the Medium and Large ones.

EMPLOYMENT TYPE:

Full-time positions consistently offer better salaries, regardless of the experience level of the employee. This can be due to full-time employment being the most chosen option in the US over the past years.

- **SALARIES:**
The minimum salary is \$24k and the maximum is \$750k, with an average salary of \$147k.
The metrics we analysed such as experience levels, employment types, company sizes and work models do influence the salaries.
- **JOB TITLE:**
The data shows that Data Scientist, Data Analyst, and Data Engineer are the most prominent career paths within the US IT market nowadays.
(variation of percentage btw those roles in the last few years to this year 2024, number of entries (registration) for those roles were and are higher compared to other IT roles)

Evolution of salaries across the years by job titles, so comparing Data Scientist X Data Analyst X Data Engineer

Which kind of difference you notice comparing them, in levels and salaries. Which changement existed in the last few years, for example.

(charts, page: Laura 02)



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