Team Project Global Trends in Mass Layoffs

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The Team



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Mass Layoff?!?

Mass Layoff

- At least 50 employees are laid off within
 30 days or less equivalent to more than ¹/₃ of the company's workforce
- More than 500 employees are laid off within 30 days or less, irrespective of the size of the company's workforce
- Huge number of layoffs from **2019 2023**
- Analyse the **trends** in layoff data.
- Build a **predictive analysis** based on the trends.





Data clean-up

company	location	industry	total_laid_off	percentage_laid_off	date	stage	country	funds_raised
N26	Berlin	Finance	71	0.04	2023-04-28	Series E	United States	1700.0
Providoor	Melbourne	Food		1.0	2023 04 28	Unknown	Australia	
Dropbox	SF Bay Area	Other	500	0.16	2023-04-27	Post-IPO	United States	1700.0
Vroom	New York City	Transportation	120	0.11	2023-04-27	Post-IPO	United States	1300.0
Greenhouse	New York City	Recruiting	100	0.12	2023-04-27	Private Equity	United States	110.0
Rebellion Defense	Washington D.C.	Data	90		2023-04-27	Series B	United States	150.0

Data Cleaning Remove null values, duplicate entries

No. of features	7	
Total no. of observed laid off	2545	
No. of Duplicates	1	
Total no. of non-null values	1165	

Analyzed 45% of available data, after cleaning \rightarrow enough data points to observe trends

Correlations



By using heatmap of the data for checking the correlation between the numerical features and target column we found below results:

- Total laid off has strong correlated with year and funds raised.
- **Percentage_laid_off** and **funds raised** has **weak correlation**.

Exploratory Data Analysis





Predictive Modelling - Linear regression model



Conclusion and Outlook

Conclusion:

GitHub Link for detailed analysis! https://github.com/purnima2/Erdos-Project.git

- Correlation and trends discussed in layoff data.
- Predictive model was built using linear regression, accuracy of 20%.

Outlook:

- Build similar predictive models to compare accuracy (we tried decision trees and time series).
- How does a global mass layoff vary from country to country? For example, GDP vs mass layoffs.
- Effects of COVID 19 in the past years?
- How does a user-friendly platform for predicting a mass layoff of a company help employees and employers?
- Effects of Artificial Intelligence, voluntary retirement and mental health?
- Demographics of the laid off employees?