Layoffs in the Tech Industry

UCSD ECE143 Data Analysis Project

Prithwiraj Paul, Olivier Rogers, Vrutik Shah, Abhijit Vadrevu, Xinran Zheng

Agenda

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3 Data Processing

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1

Introduction

The **Dot-Com Bubble**, the **Financial Crisis**, the **Covid-19 Pandemic**: Throughout the history of the Tech Industry, we've seen Mass Layoffs. Let's look at data from the most recent wave of tech layoffs and see what we can learn!

Data Overview

Layoff dataset

Includes the following information for each company:

1. Country and location
2. Industry
3. Number of layoffs
4. Percentage of layoffs
5. Funding stage
6. Funds raised

Link: https://layoffs.fyi/

Historical Layoffs

Includes the following information for layoffs in the past:

1. Past mass layoffs
2. Layoffs by various sectors
3. Reasons cited for layoffs
4. Announced Job Openings

Source: Challenger Report Dec. 2022

Salary dataset

Includes the following information of each laid off person:

1. Company
2. Job title
3. Salary
4. Years of experience

Link: https://levels.fyi/

Data Processing

1

Read Data

Read in all the CSV files from the data directory and convert them to Pandas Dataframes

2

Process Data

Run each processing function on its respective dataset, which will create a new Pandas Dataframe for that specific process

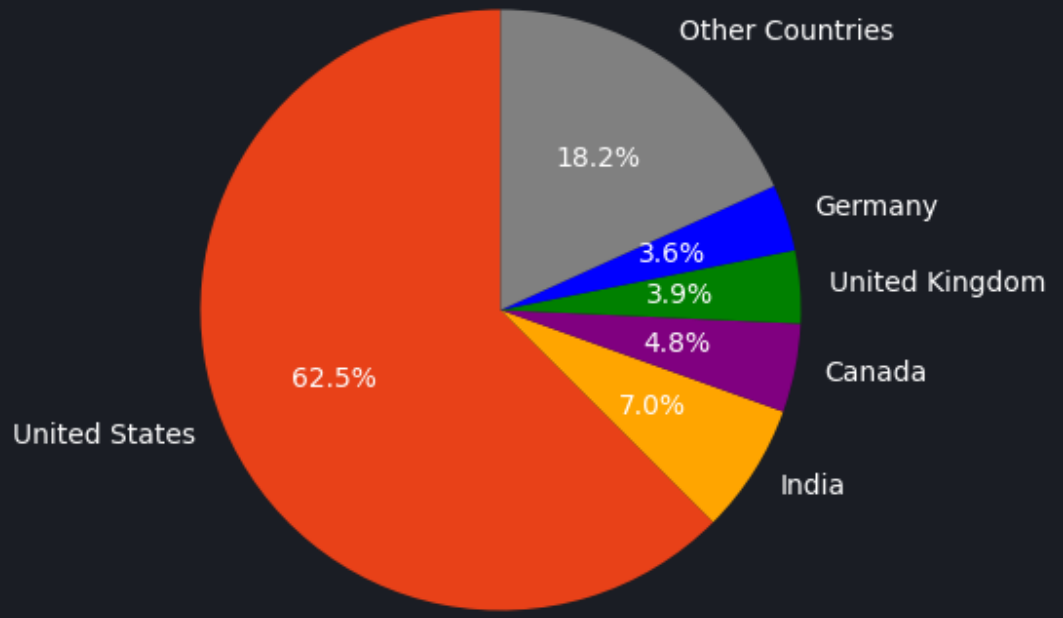
3

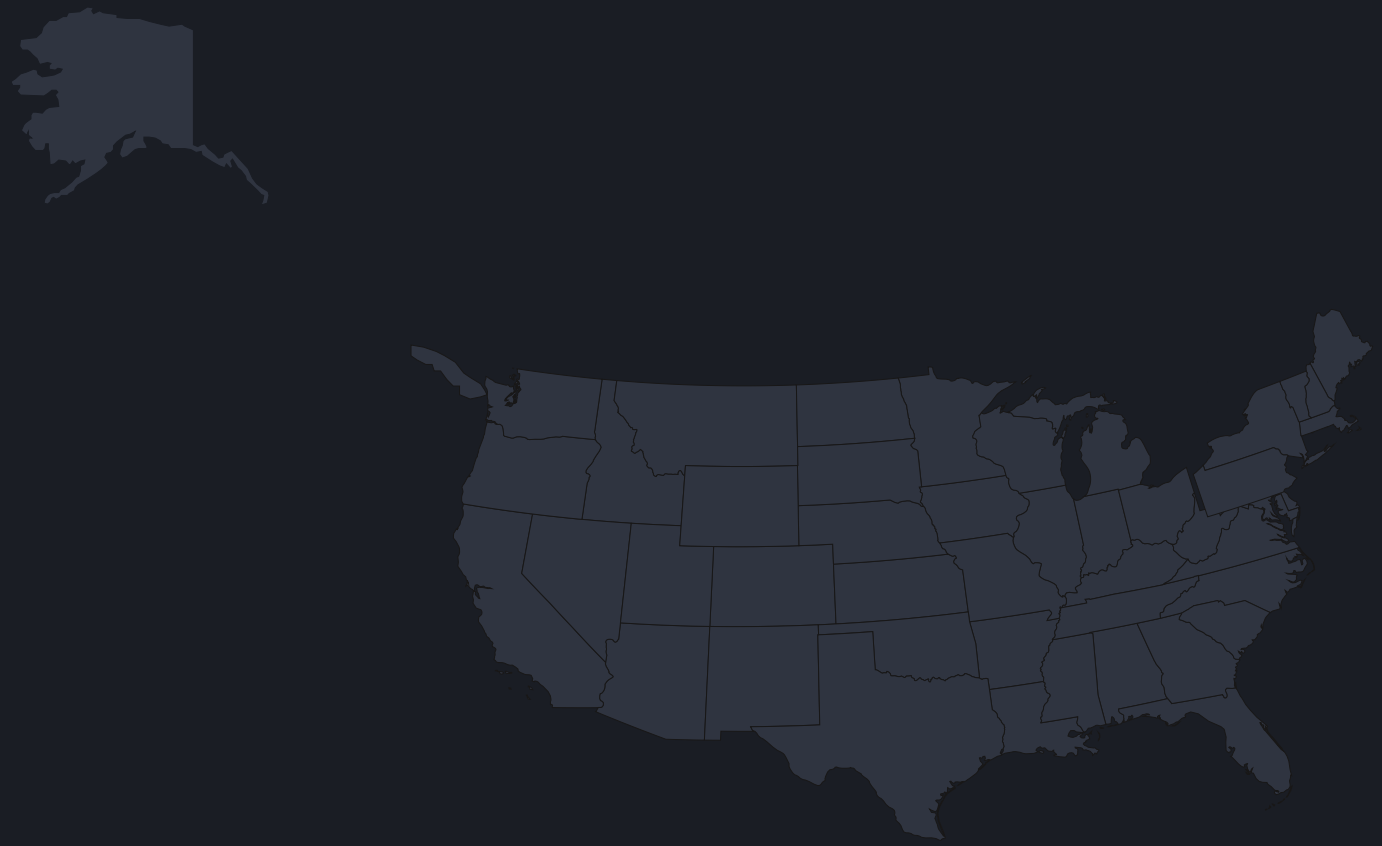
Return

Accumulate all the Dataframes from the processing functions into a dictionary and return to the user

4
Visualizations

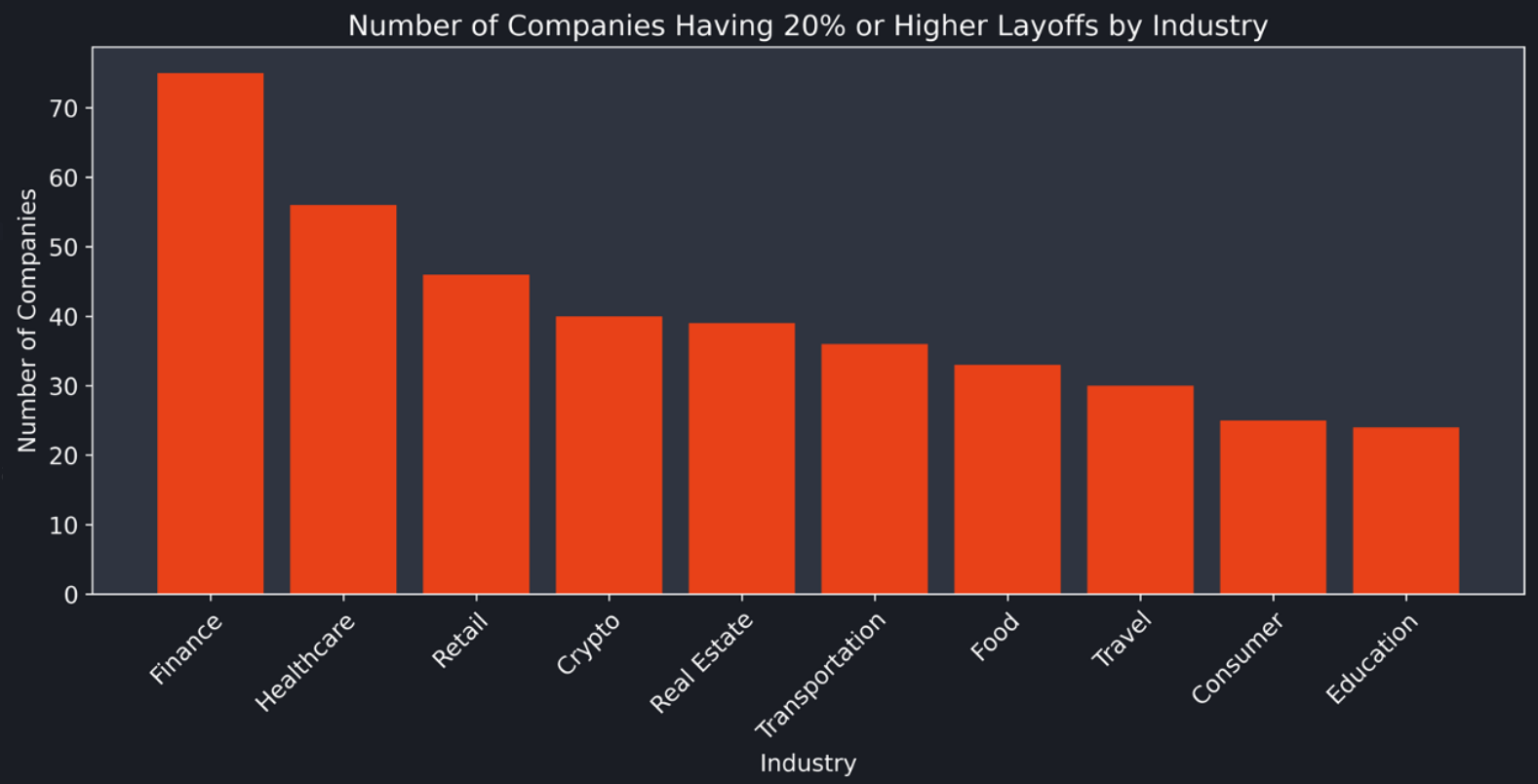
- There are 580+ companies having 20% or higher layoffs.
- In the U.S., there are 350+ such companies.





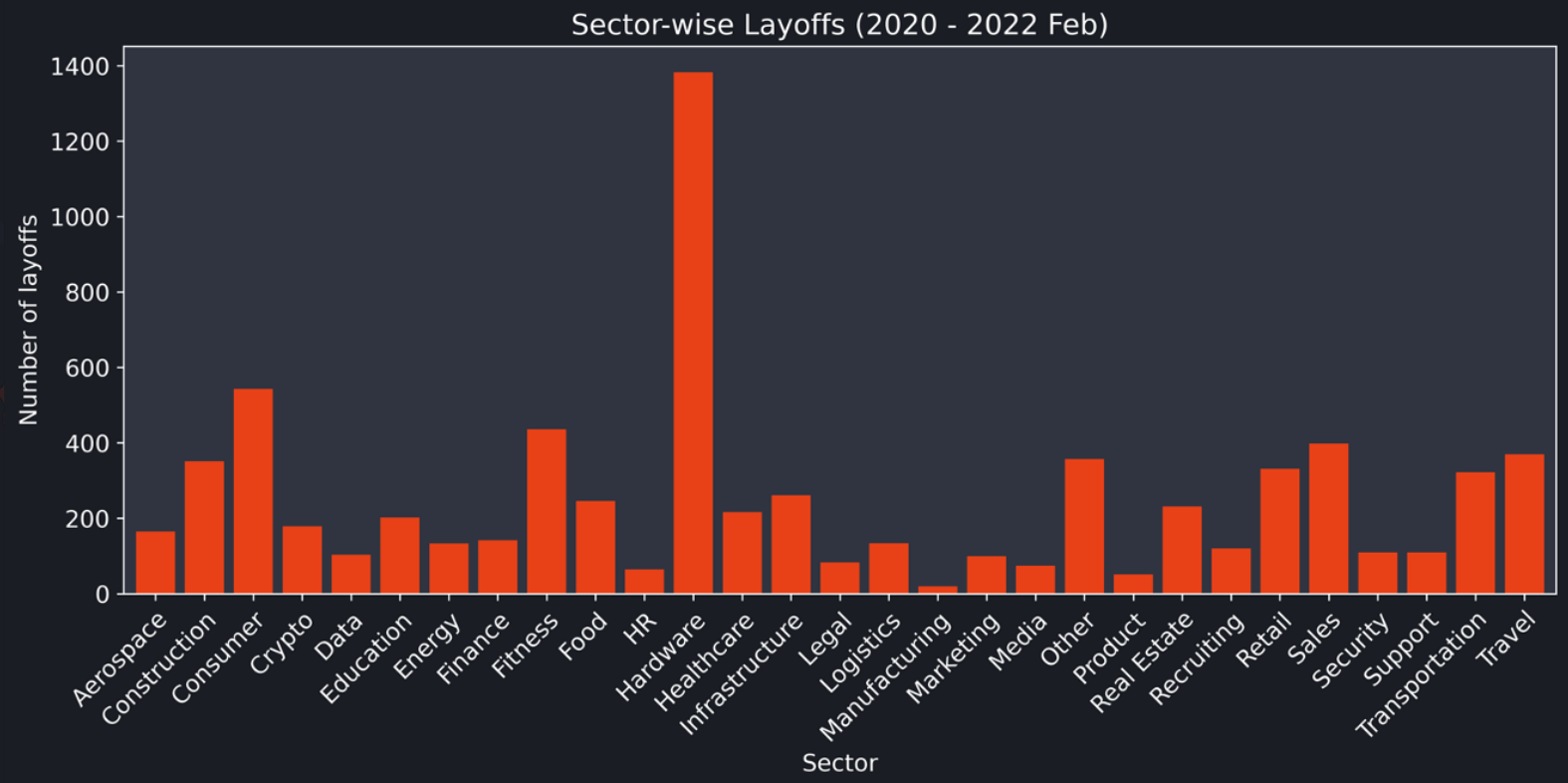
States with Major Layoffs

- High percentage of layoffs occurs most often in industries of finance, healthcare, retail...



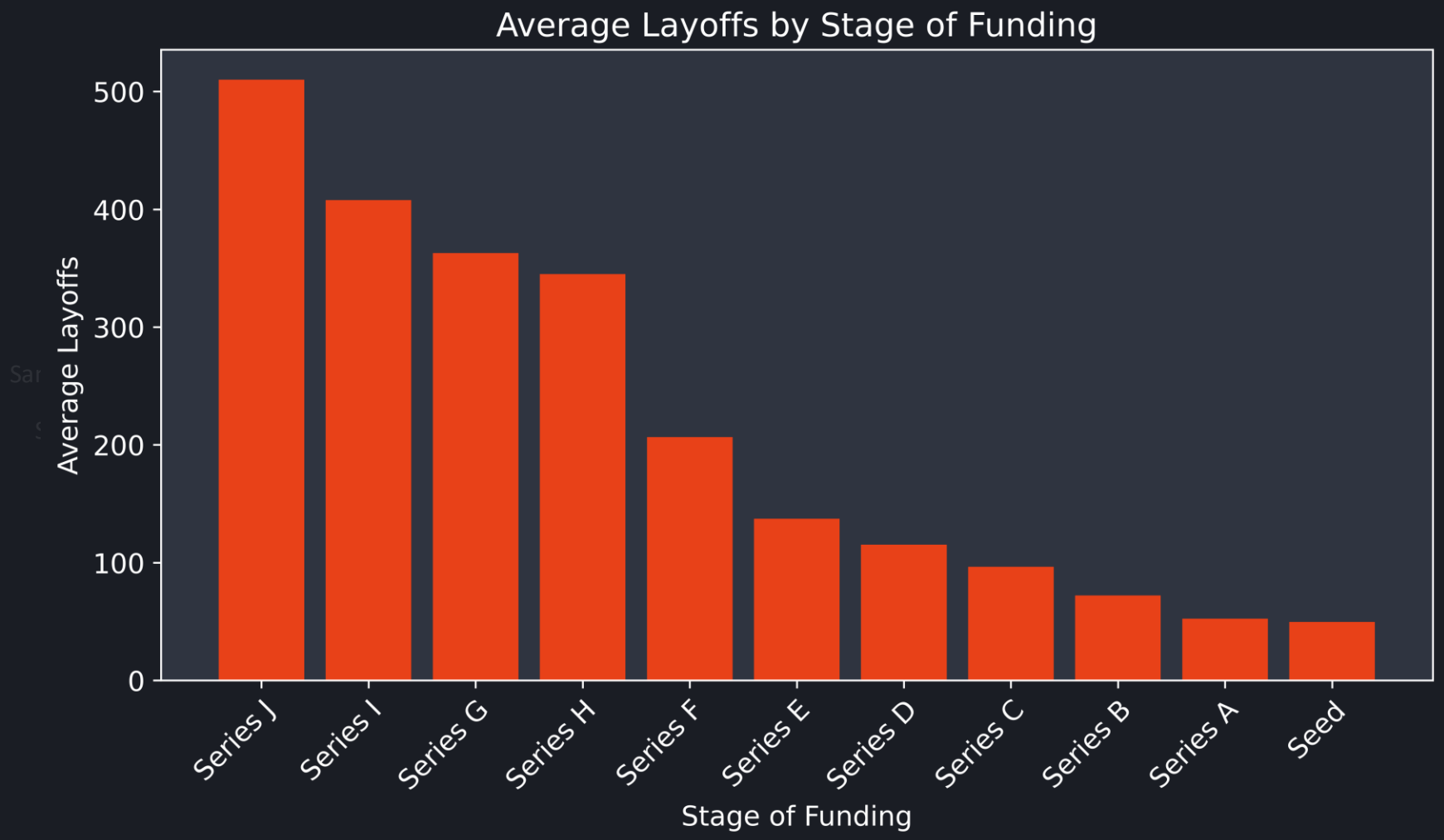
States with Major Layoffs

- *Hardware Industry* sector had the highest percentage of layoffs
- *Manufacturing sector* faced the least number of layoffs

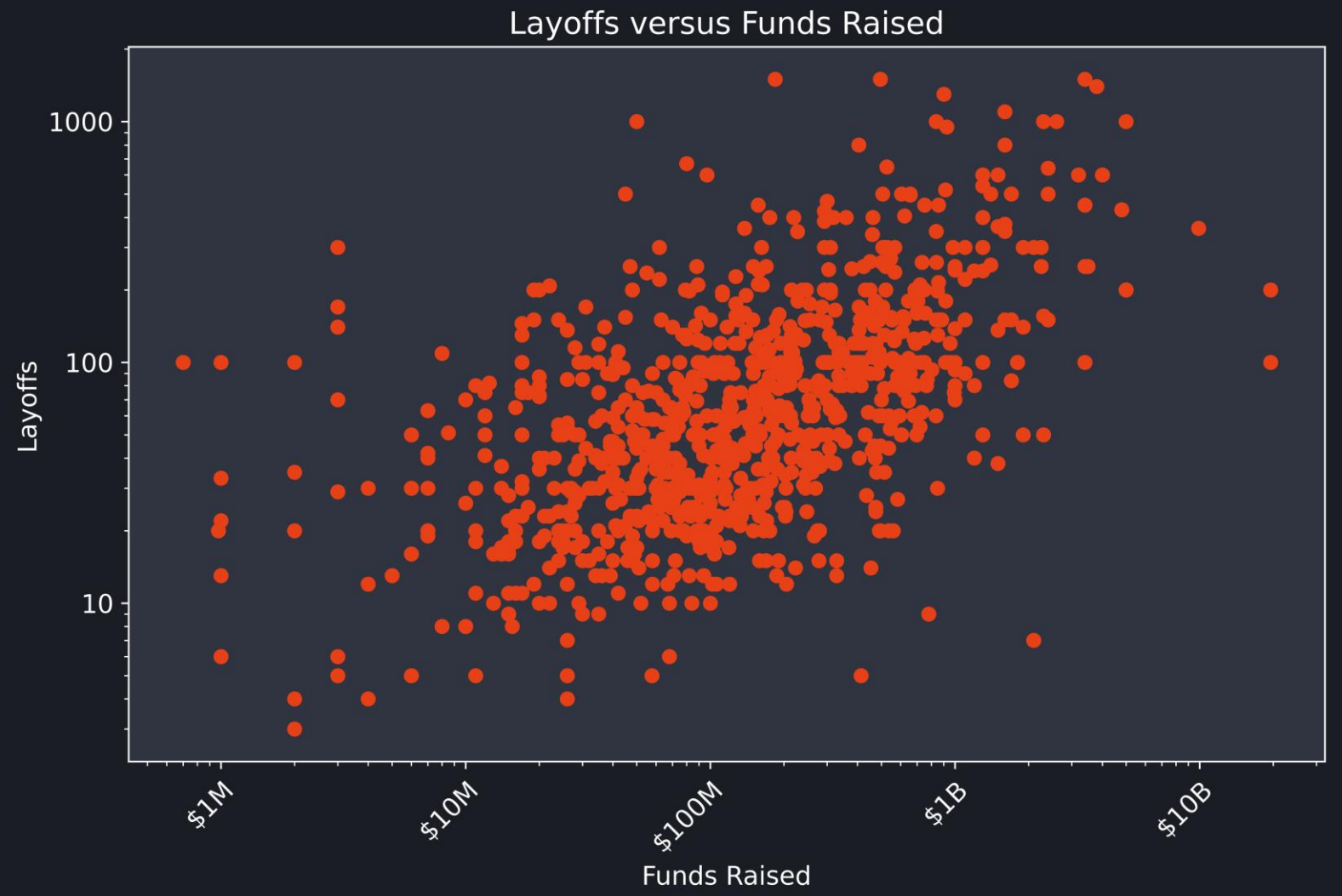


Cities with Major Layoffs Across California

- Later Stages of startups had significantly more layoffs

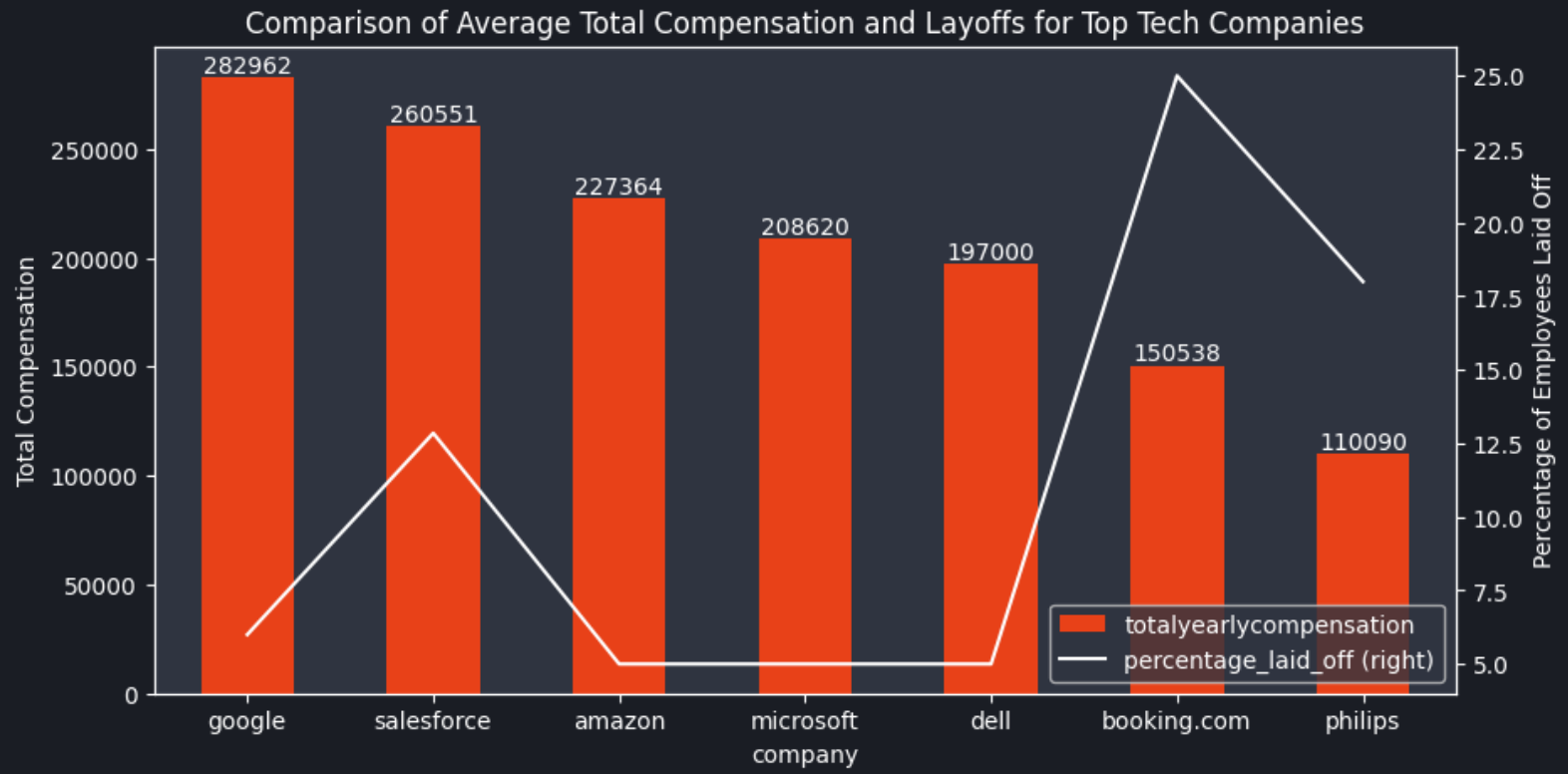


- Higher funds raised loosely correlates to a higher number of Layoffs



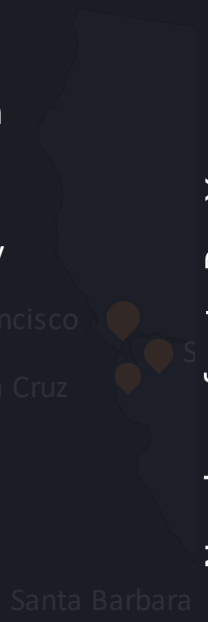
Cities with Major Layoffs Across California

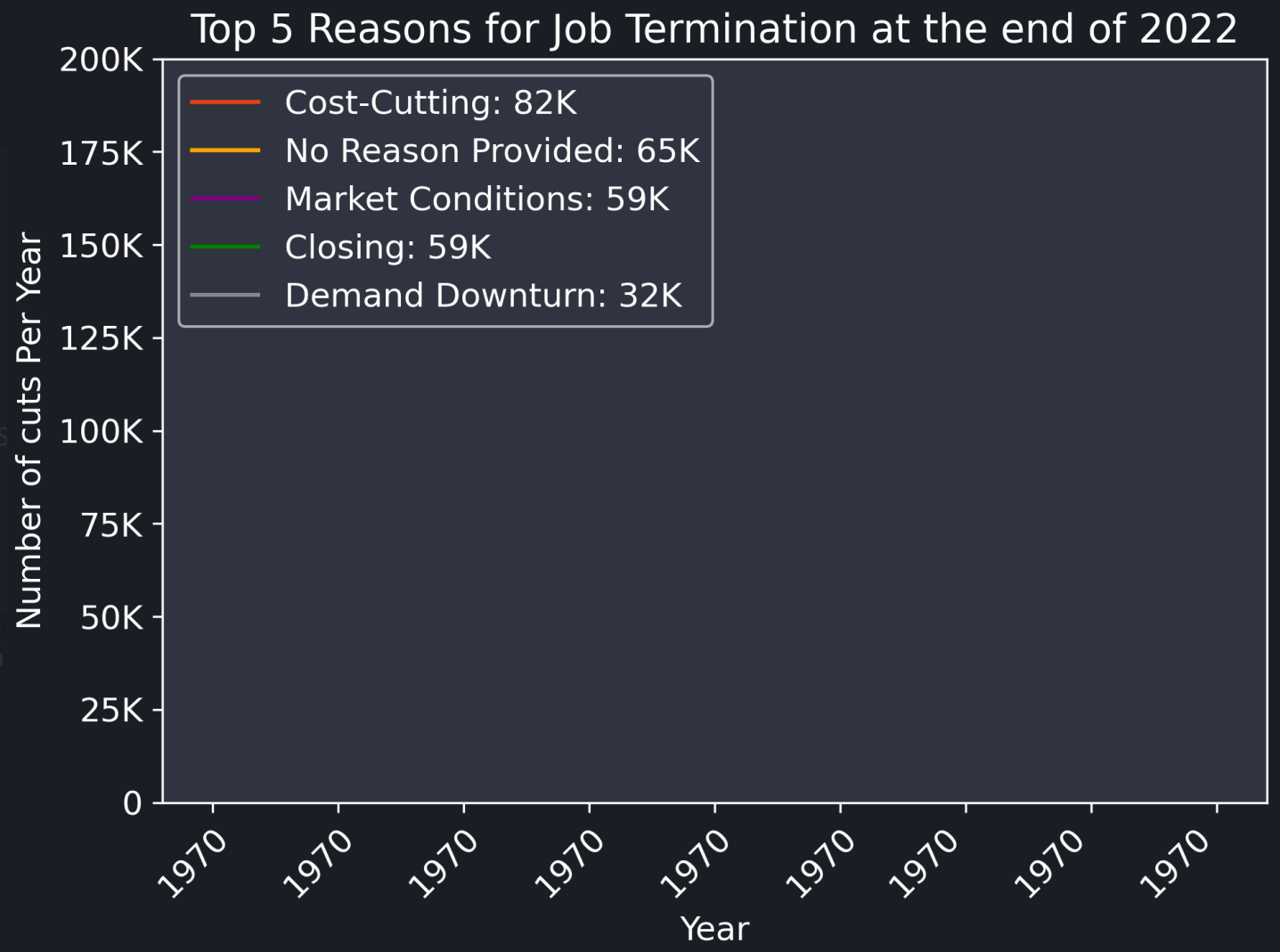
- Companies that pay more generally have lower percentage of workforce laid off.
- This can be attributed to a larger market value of the company.



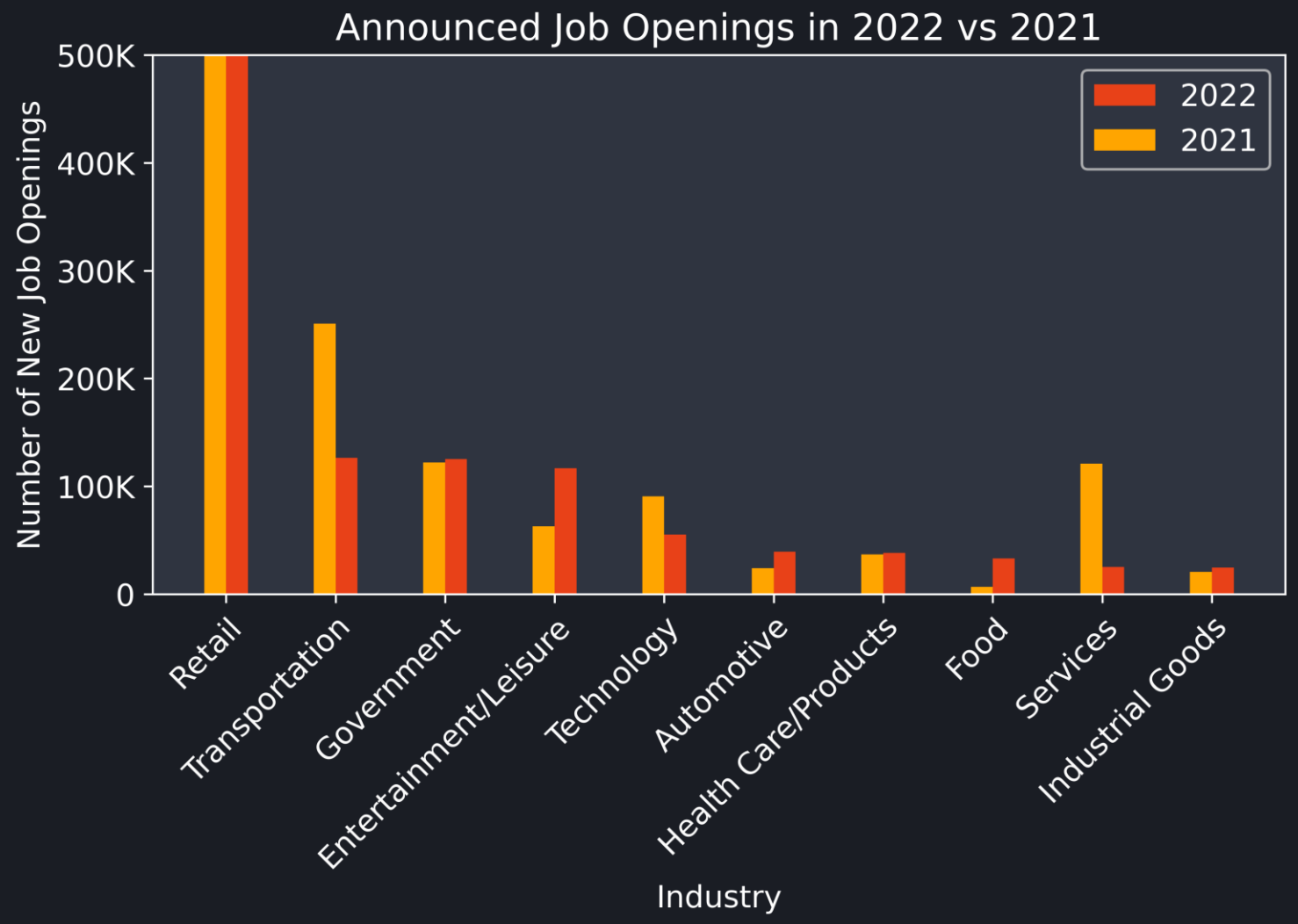
Cities with Major Layoffs Across California

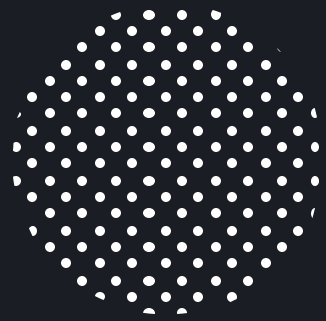
- Job Cuts across all industries in the US from 2014 to 2022
- Data from Challenger and Gray Report.





- Reduction in Job Openings
  - Services
  - Transportation
  - Technology
- Increase in Job Openings
  - Entertainment/Leisure
  - Food



Conclusions

- Overall, we observed trends in Industry, Country, Funding, Pay, and Reasons for Termination in relation to Layoffs
- We learned a lot from the datasets, and had a great time working with the data and making visualizations!