



Analysis of Technology Market and Its Trends

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EXECUTIVE SUMMARY



- Analyze the IT market and its trends, helping to understand which are the most languages used nowadays, its prevision for the future, among other things.
- Criteria used for analysis:
 - Most languages used and desired for next year;
 - Most databases used and desired for next year;
 - Most platforms used and desired for next year;
 - Most webframes used and desired for next year;
 - Gender in IT market;
 - Country and age of respondents;
 - Formal education level.

INTRODUCTION



There has been a significant increase in the IT market nowadays and it's widely known that many people have been changing careers to IT, resulting in a substantial increase in its usage.

Observing this scenario, it's necessary to understand which technologies are being used the most, which ones are being overlooked in this market, and what the profile of IT professionals is to gain a better understanding of this phenomenon and its tendencies.

Therefore, this analysis aims to gather information about technology usage, the profile of respondents, and to uncover insights about the IT market.

METHODOLOGY



- Step 1: Collecting jobs data using API Questions from <https://www.kaggle.com/promptcloud/jobs-on-naukricom>
- Step 2: Web Scraping from https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBM-DA0321EN-SkillsNetwork/labs/datasets/Programming_Languages.html
- Step 3: Survey Dataset Exploration from https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBM-DA0321EN-SkillsNetwork/LargeData/m1_survey_data.csv
- Step 4: Data Wrangling in the previous dataset
- Step 5: Exploratory Data Analysis on https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBM-DA0321EN-SkillsNetwork/LargeData/m2_survey_data.csv
- Step 6: Data Visualization on https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBM-DA0321EN-SkillsNetwork/LargeData/m4_survey_data.sqlite
- Step 7: Dashboards based on datasets from The 2019 Stack Overflow Developer Survey: m5_survey_data_demographics.csv and m5_survey_data_technologies_normalised.csv.

RESULTS

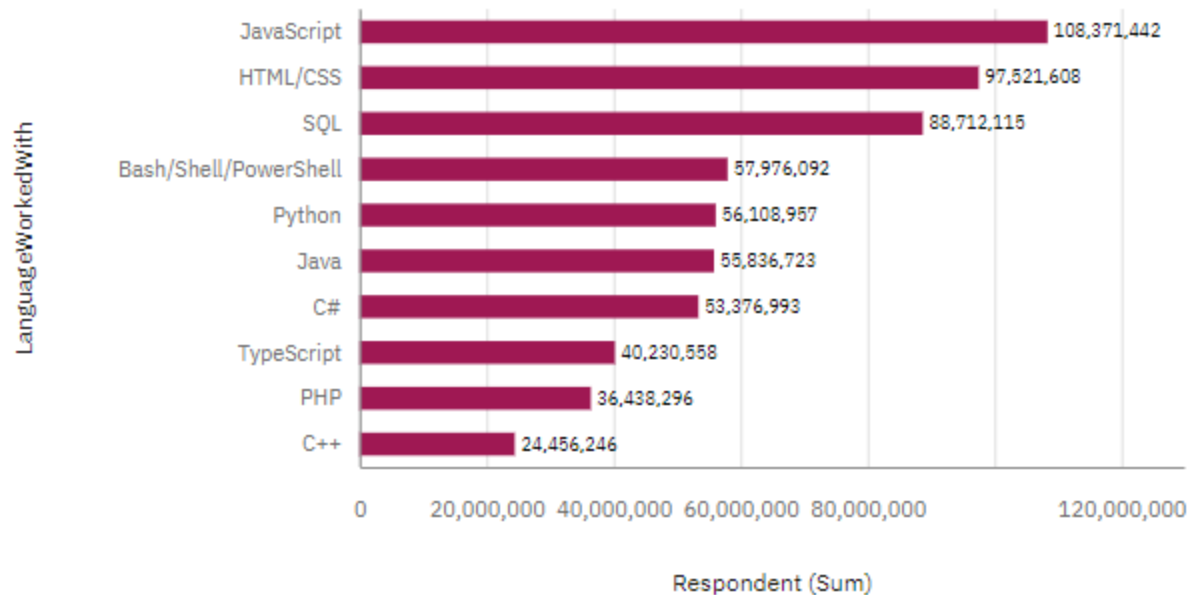


PROGRAMMING LANGUAGE TRENDS

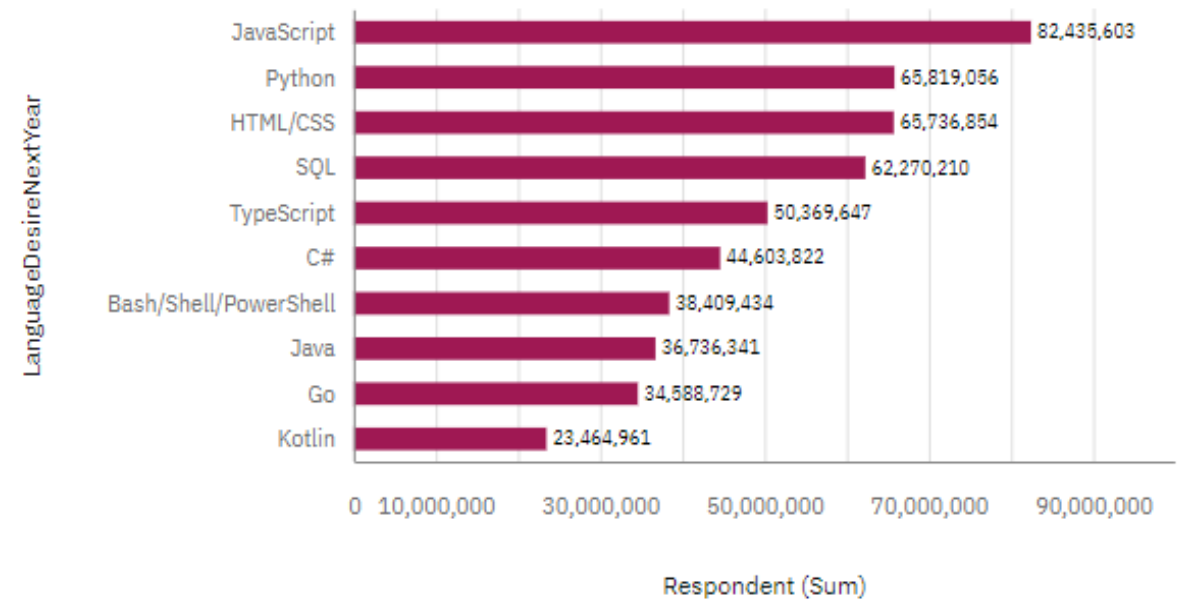
Current Year

Next Year

Top 10 Languages Worked With



Top 10 Languages Desired for Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- Java ranks as the top language most worked with and the top language most desired for the next year.
- Although PHP and C++ are in the top 10 languages most worked with, they do not appear in the top 10 desired for the next year.
- Python is ranked in the top 5 among the languages most worked with, but it ranks second in terms of desired languages for next year.

Implications

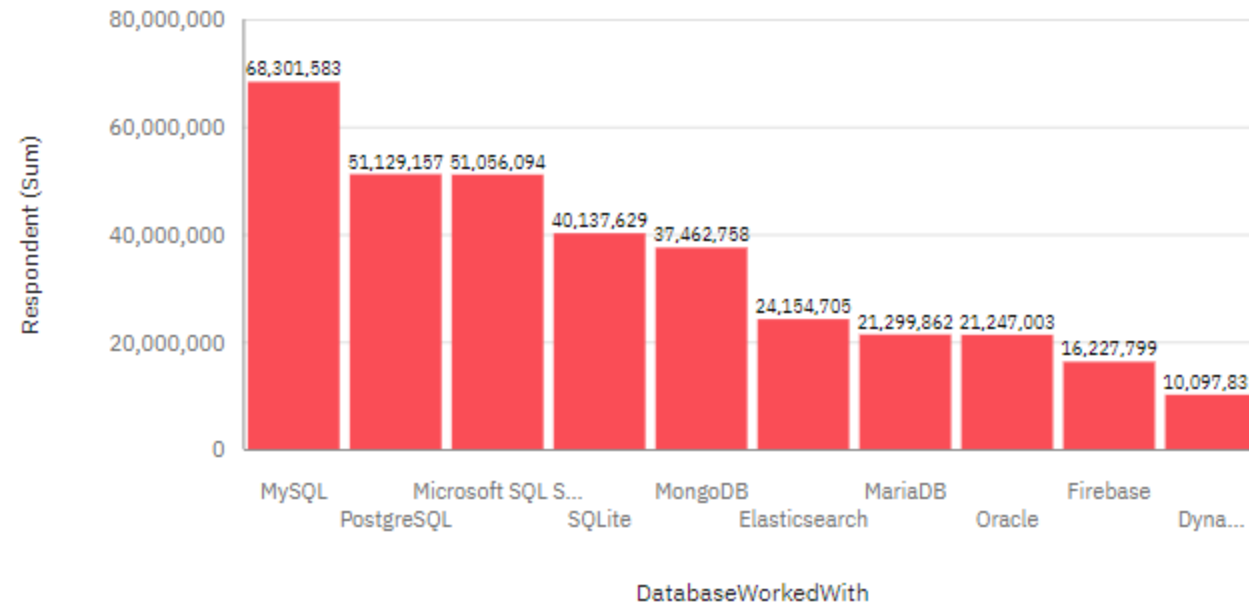
- This shows that Java is a highly desirable language to work with, given its widespread use and the expectation that it will remain so in the future.
- It implies that these two languages will likely experience a decrease in usage next year.
- Python is expected to see an increase in usage next year, surpassing four languages that are currently more commonly used."

DATABASE TRENDS

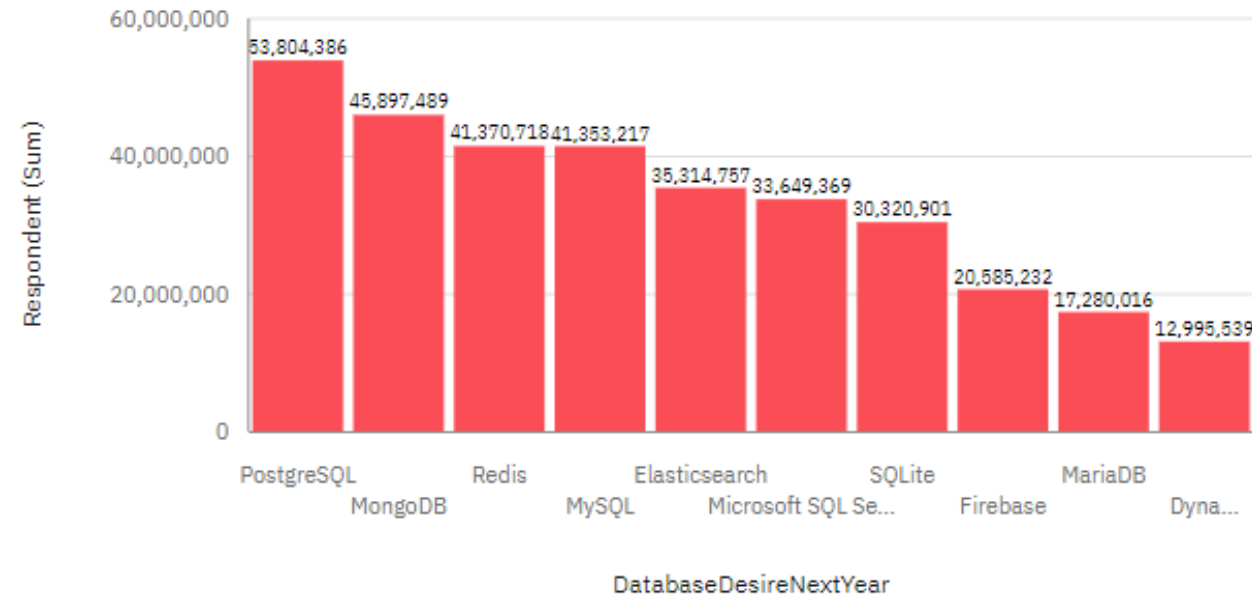
Current Year

Next Year

Top 10 Databases Worked With



Top 10 Databases Desired for Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- My SQL is Top1 in languages worked with, but gets the Top4 when it comes to next year.
- PostgreSQL is Top2 in languages worked with, but gets Top1 when it comes to next year. While MongoDB is Top5 this year and goes to Top 2 when it comes to next year.
- Redis doesn't even make it into the top 10 most commonly worked with languages, but it appears in the top three most desired languages for next year.

Implications

- Indicates a potential shift in preferences or technologies.
- It shows an increase in its potential to become a major player in the database market.
- Indicates a growing recognition of its potential benefits and future relevance, despite its current lower usage.

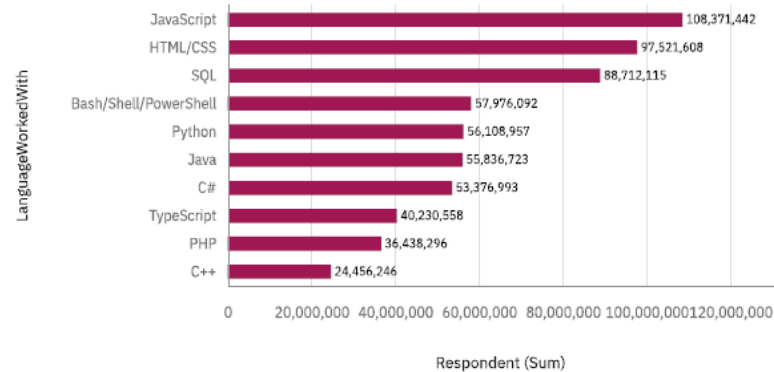
DASHBOARD



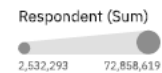
<https://github.com/jessica-luiz/Capstone-Project---IBM-Data-Analyst>

DASHBOARD TAB 1

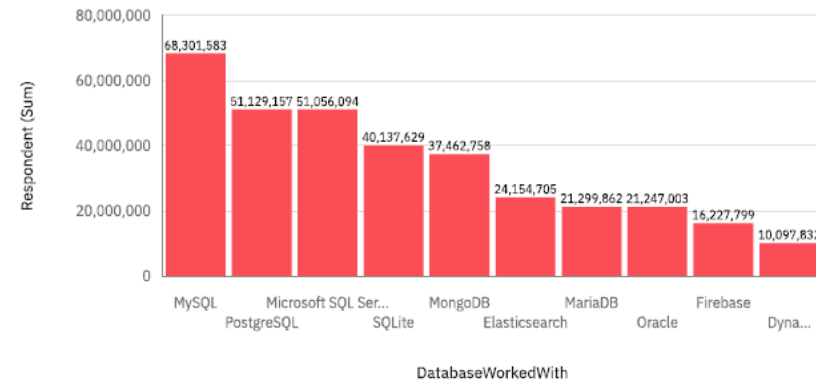
Top 10 Languages Worked With



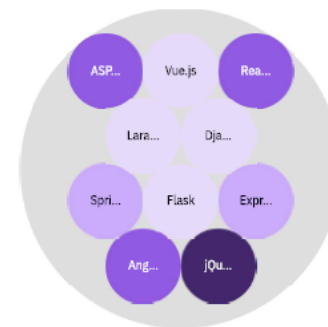
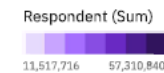
Most Common Platform Worked



Top 10 Databases Worked With

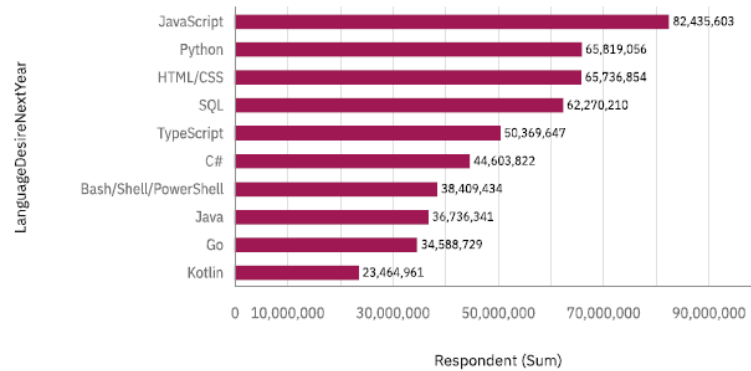


Top 10 Web Frames Worked With

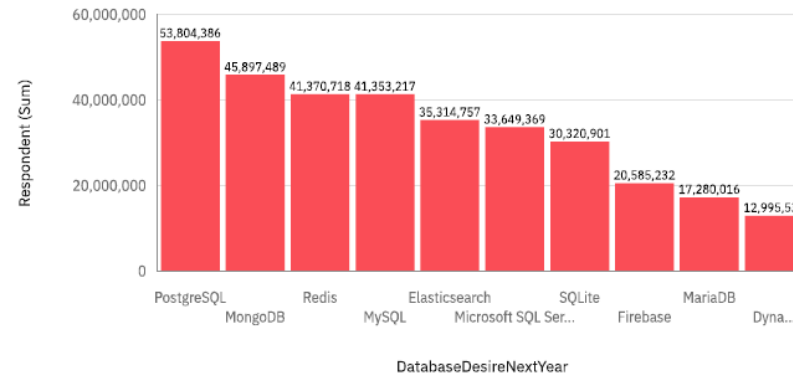


DASHBOARD TAB 2

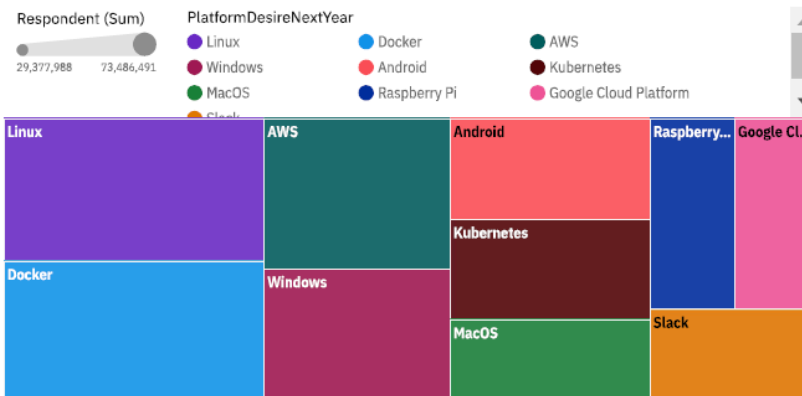
Top 10 Languages Desired for Next Year



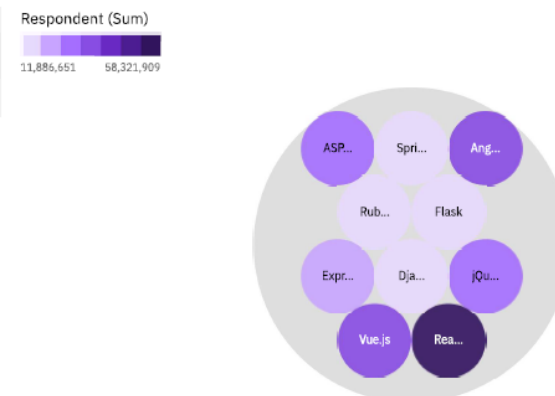
Top 10 Databases Desired for Next Year



Most Desired Platforms for Next Year



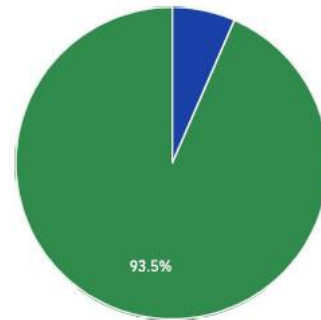
Top 10 Web Frames Desired for Next Year



DASHBOARD TAB 3

Gender of Respondents

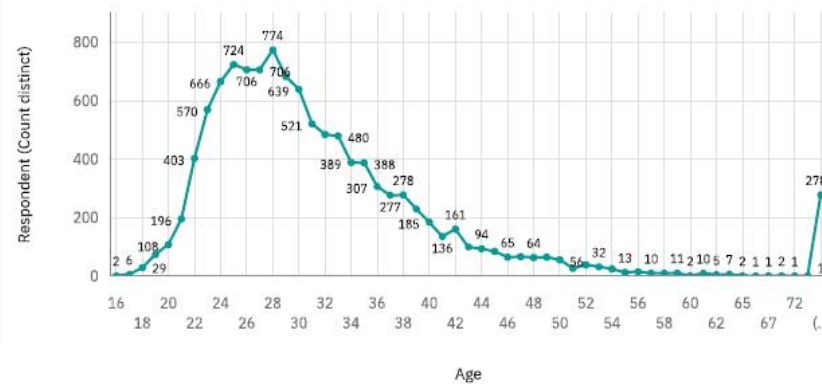
Gender
● Woman ● Man



Country of Respondents

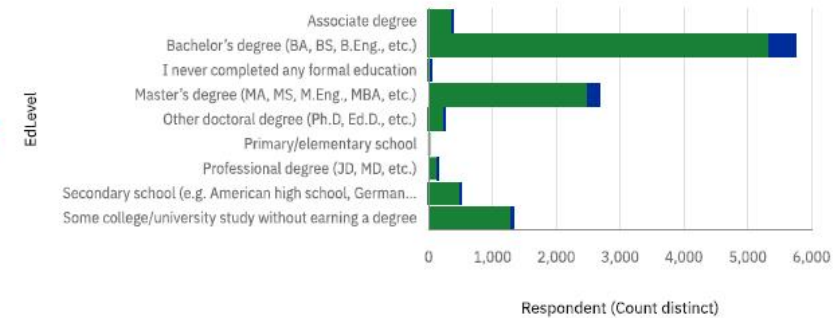


Age of Respondents



Formal Education Level of Respondents by Gender

Gender
● Man ● Woman



DISCUSSION



OVERALL FINDINGS & IMPLICATIONS

Findings

- Most of the respondents have a bachelor's degree in the field
- Men are the majority in this market.
- JavaScript, Python, PostgreSQL, and MongoDB are on the rise.
- Linux is the most common platform used, with Docker closely following behind.

Implications

- Nowadays, it's very common to say that you don't need a degree to work in IT, but these statistics show that most of the people in the market actually have a degree.
- Although it's known that we have more women in technology than we had years ago, there are still significant gender disparities.
- This could indicate growing demand for skills related to these technologies in the job market.
- It's known that Linux is very popular due to its performance and compatibility. When we see this high adoption of Docker, it indicates an increasing interest in containerization technology

CONCLUSION

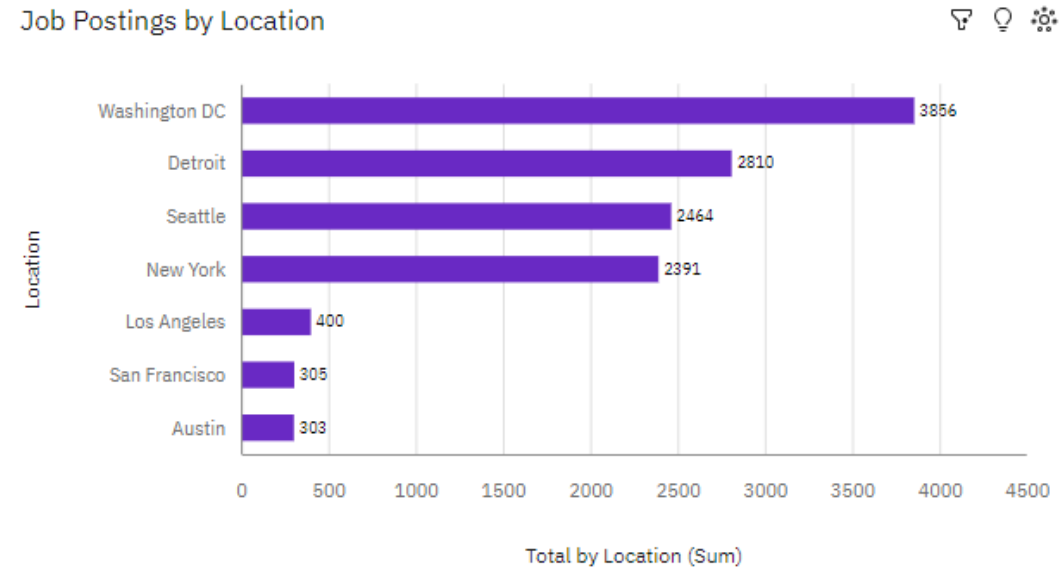


- IT job market has been increasing a lot, and it's a good practice for juniors to check the usage and tendency of their language to plan their career better.
- The disparity of gender in this market should be decreased further, given that 94% of the respondents were still men.
- It's necessary to increase the investments in this field in 3rd World Countries that don't have a lot of incentives in this profession.

APPENDIX



JOB POSTINGS



POPULAR LANGUAGES

