



StackOverflow Developer Survey Analysis

Hassan Tahir
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EXECUTIVE SUMMARY



- Vital Skills that are relevant in the field of Information technology are advancing and growing according to the growing and dynamic needs of the customers.
- The following presentation will focus on the current and future technological trends in the Programming Languages, Databases, Platforms and WebFrameworks domains.
- The objective is to identify the future trends to help IT graduates to keep up with them and so that businesses in the IT field can make well informed hiring decisions based on data.

INTRODUCTION



- This presentation will help graduates identify the core skills that are going to be in demand in the future in the field of IT.
- It will also help businesses making well informed decisions as to what key skills to look for when hiring new developers and what technologies will be more frequently used in the future.
- The data for this presentation was collected by StackOverflow's survey of developers that are already working in the IT field so its relevant to the objectives of the presentation.

METHODOLOGY



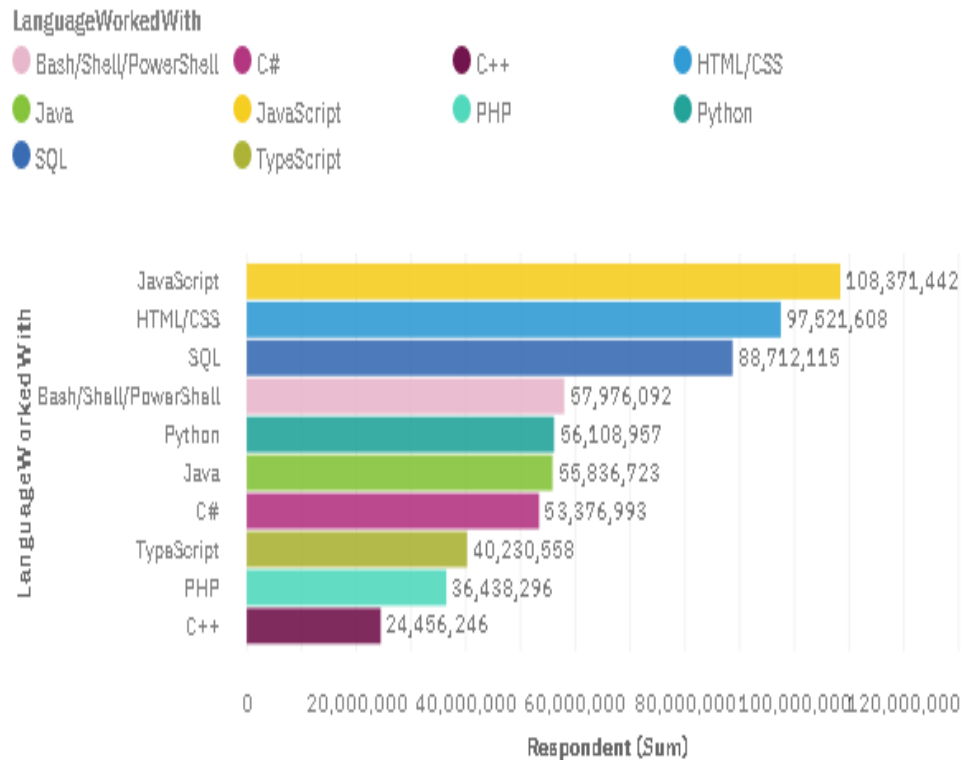
- A modified subset of the StackOverflow dataset was used. The data went through the wrangling and cleaning process to eliminate duplicates, determine missing values and normalize the data.
- IBM Cognos Dashboard Embedded was used to create different visualizations according to the necessary requirements for the presentation based on the normalized dataset.

RESULTS

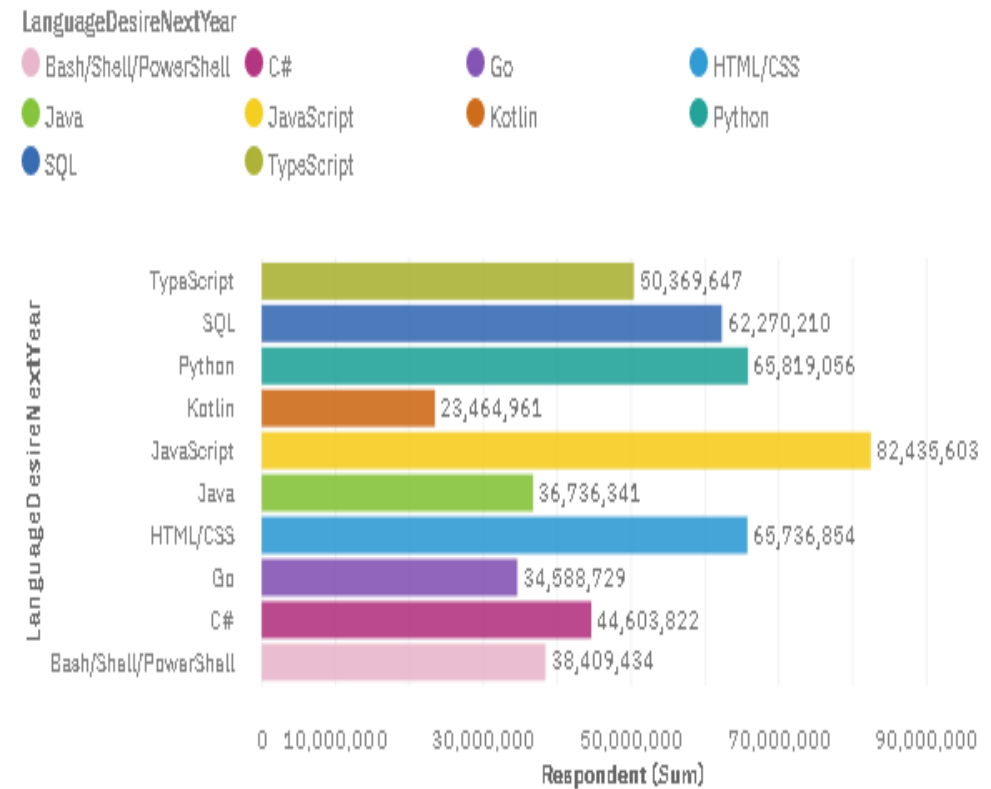
- The Results section will be divided into two parts:
- In the first part we will look at some visualizations, make inferences and implications based on them.
- The 2nd part will focus on a quick overview of all the dashboard tabs that were made according to the requirements of the project.

PROGRAMMING LANGUAGE TRENDS

Top 10 Languages Worked With



Top 10 Languages Desired Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

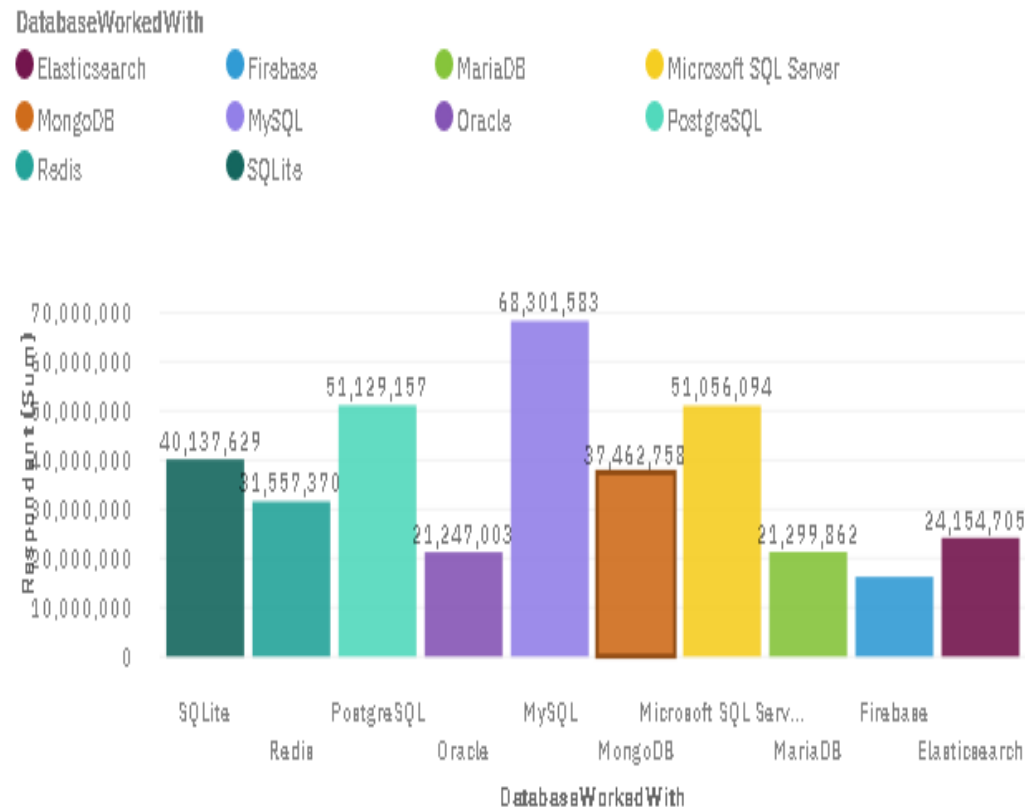
- JavaScript, HTML/CSS and SQL are the most popular programming languages this year and the trend will continue next year.
- Python and Typescript will see the most increase in popularity next year.
- C++ and PHP will no longer remain in the top 10 next year and Kotlin and Go will earn a place in the top 10 languages next year.

Implications

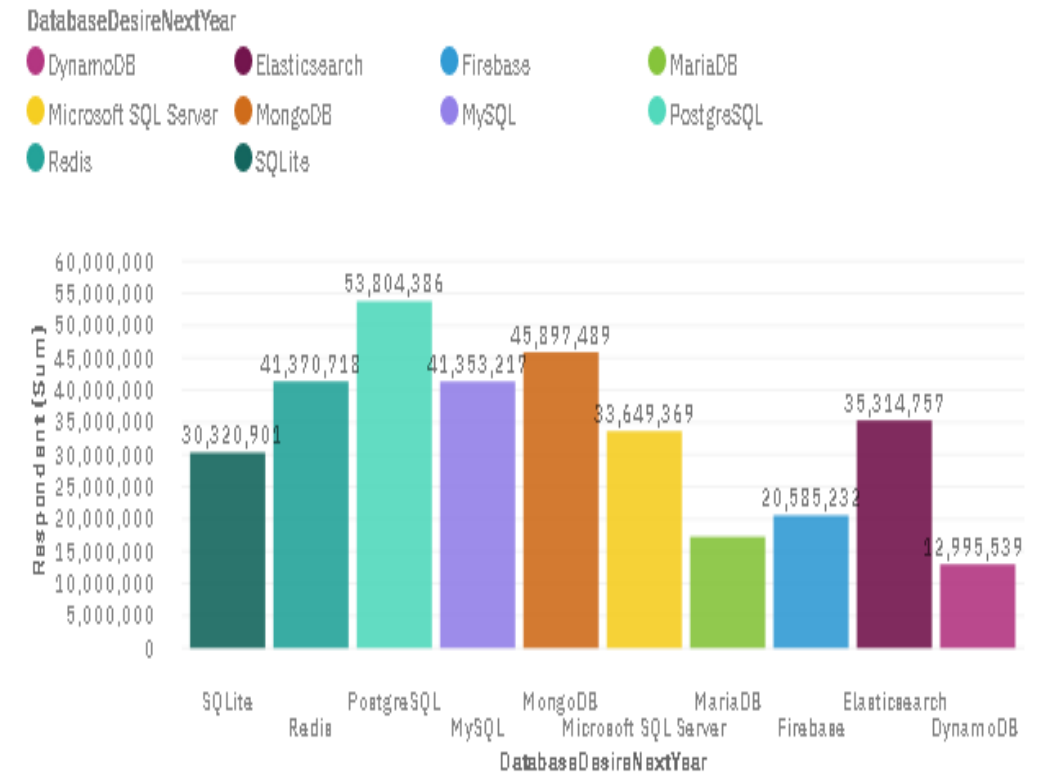
- Web developers skilled in JavaScript and HTML/CSS will be high in demand.
- Python is becoming more popular because of rising interest in fields like Artificial Intelligence and Machine Learning, Typescript is more reliable and explicit than JavaScript
- Jobs that require Kotlin and Go programming skills will increase in numbers next year.

DATABASE TRENDS

Top 10 Databases Worked With



Top 10 Databases Desired Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL's and Microsoft SQL Server's and Oracle's popularity will decrease next year.
- MongoDB, Elasticsearch, Redis and Firebase will see the most rise in popularity next year.
- DynamoDB will also earn an position in the top 10 Databases next year.

Implications

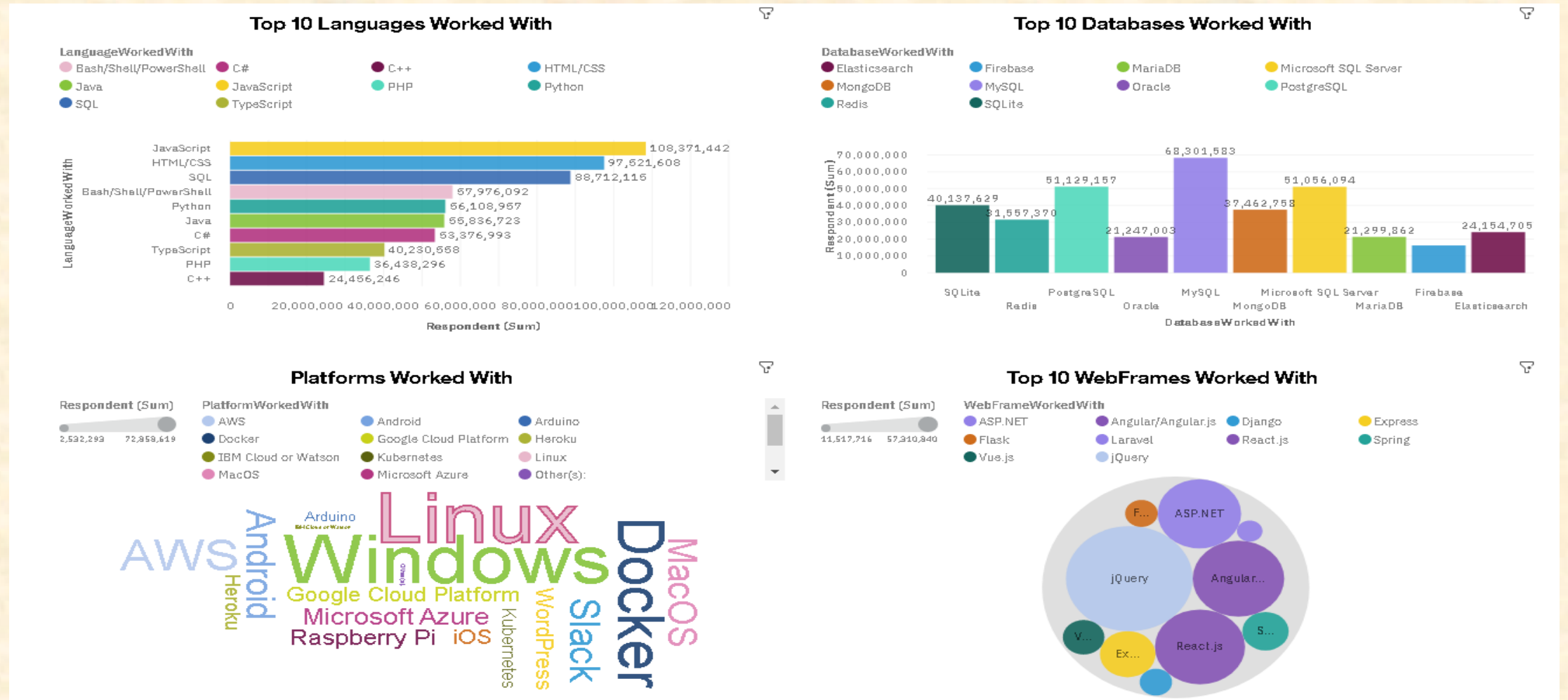
- MySQL and Microsoft SQL Server will become less popular resulting in fewer job postings for them.
- MongoDB, Elasticsearch, Redis are more faster and scalable than SQL. This implies that there will be more job postings for faster databases next year.
- Performance, easy setup and maintenance will earn DynamoDB a spot in the top 10 Databases next year.

DASHBOARD LINK



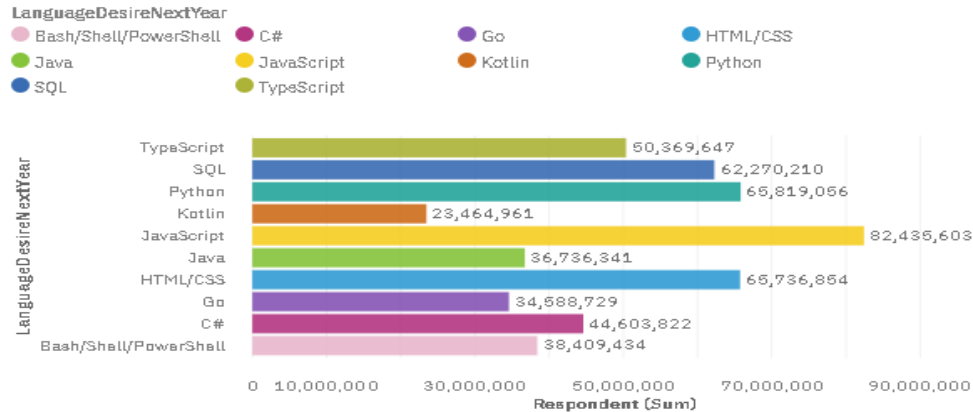
<https://eu-de.datapatform.cloud.ibm.com/dashboards/6b14c5bf-659e-4900-b1cb-64a8e5743371/view/7a1ff97621eb0d9272b1d4e407982a002b362155e7bb8503d6847b490f682797f3611796c82a1d08db440d30fbea175ccd>

DASHBOARD TAB 1

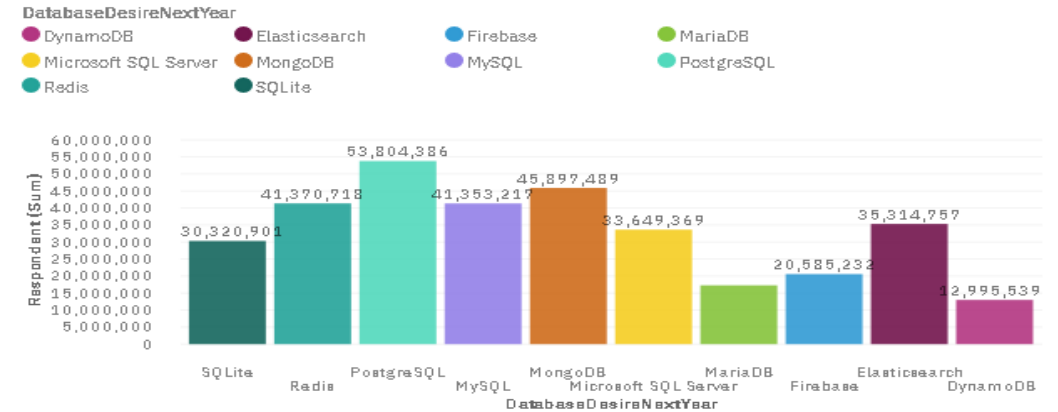


DASHBOARD TAB 2

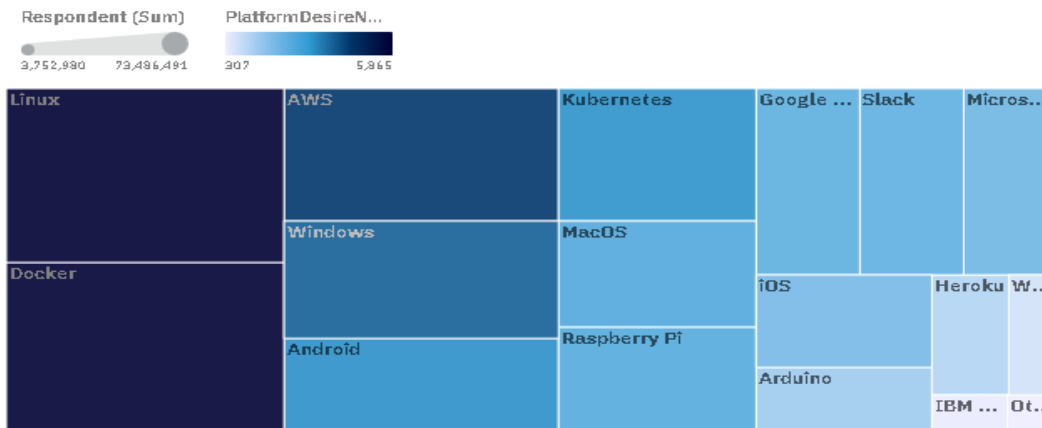
Top 10 Languages Desired Next Year



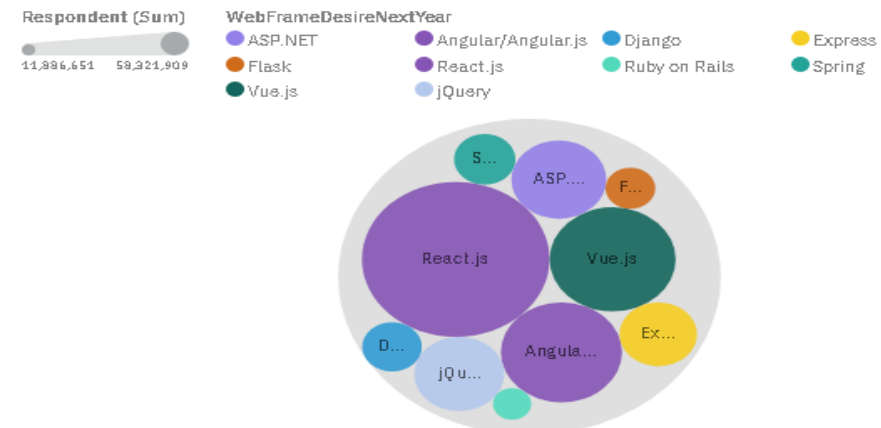
Top 10 Databases Desired Next Year



Platforms Desired Next Year



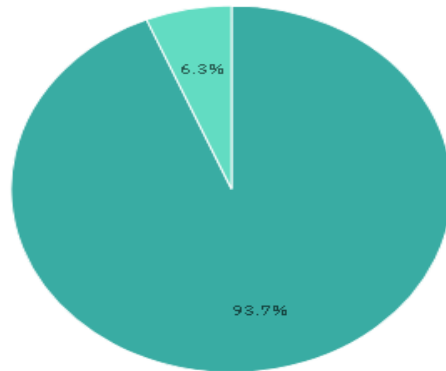
Top 10 WebFrames Desired Next Year



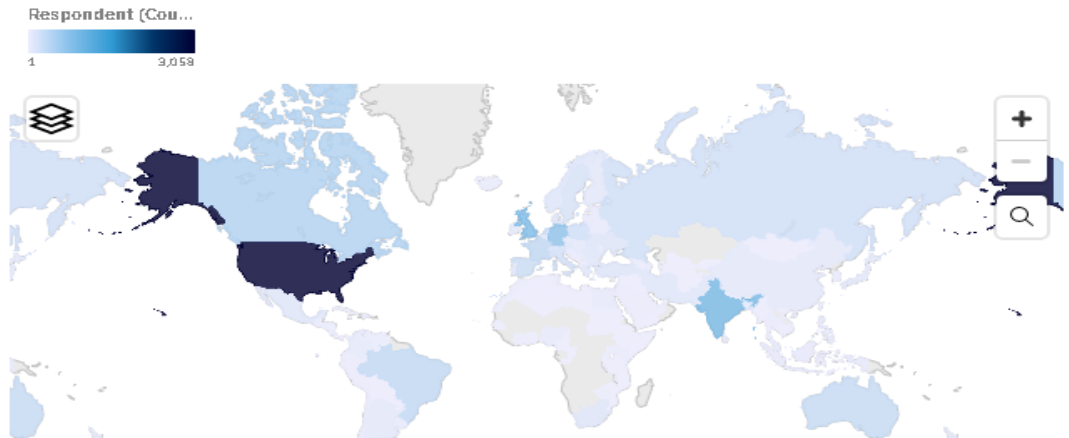
DASHBOARD TAB 3

Respondents Classified by Gender

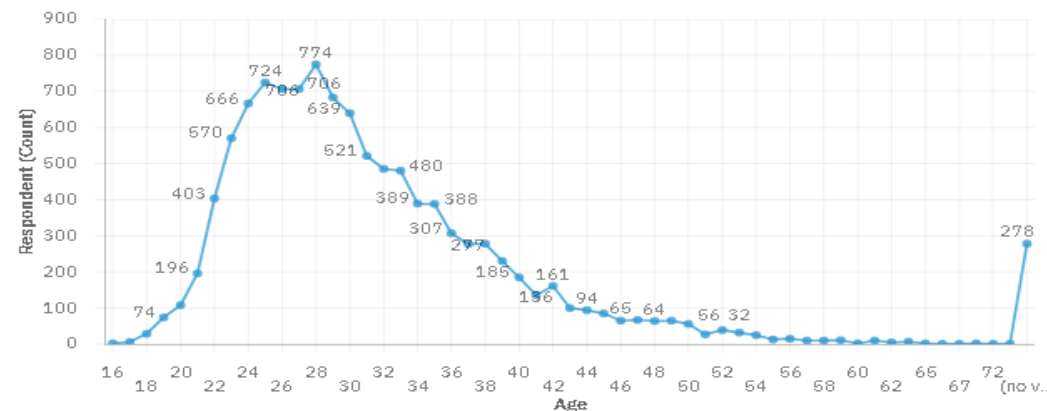
Gender
● Man
● Woman



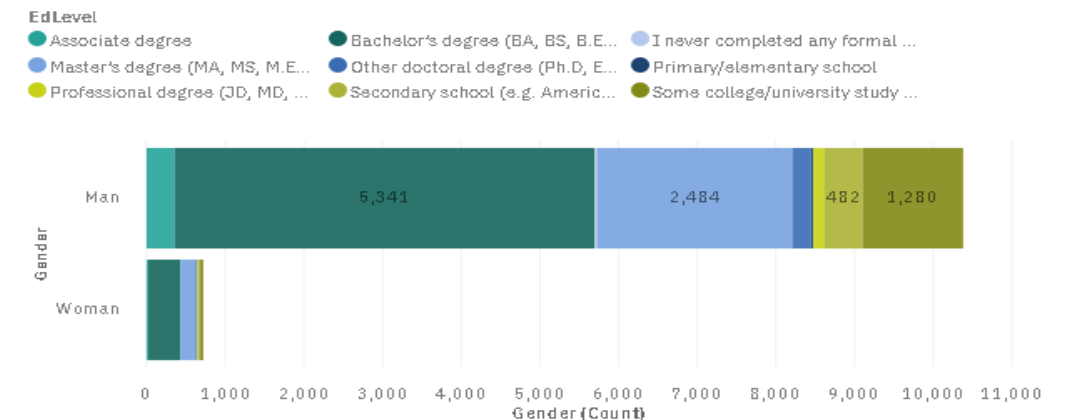
Respondent Count for Countries



Respondent Count by Age



Respondent Count by Gender, classified by Formal Education Level



DISCUSSION



- Technology Usage in the Current and Future Year.
- Discrimination in the IT industry based on Age, Gender, Country and Education Level.

OVERALL FINDINGS & IMPLICATIONS

Findings

- 93.7% of the respondents identified as males.
- The average age of respondents ranges from 20 to 30 years of age.
- Due to better features and speed, technology trends change every year.
- Python is becoming more popular because of growing interest in the fields of AI and Machine Learning.
- JavaScript will remain the most popular language next year.

Implications

- There is higher barrier to entry in the IT field for woman because of gender discrimination.
- Python and JavaScript will remain high in demand in the current and next year.
- Linux, Docker, AWS and Windows will gain even more popularity in the future.
- React.js and Vue.js are two more desired WebFrameworks for next year.

CONCLUSION

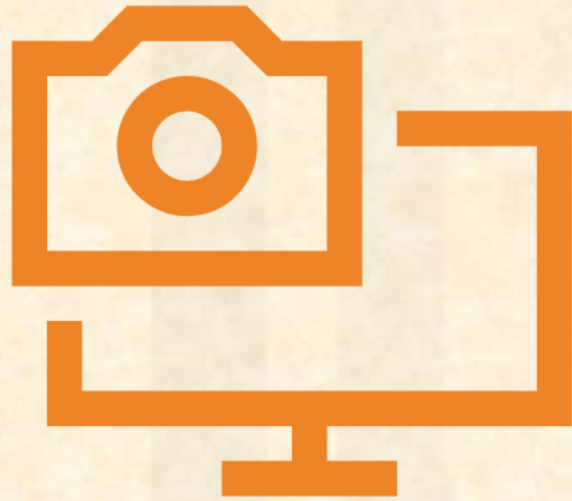


- Technology trends change every year because of better features, ease of use, speed, scalability and platform independence.
- Its necessary for developers to keep up to pace with the changing trends and acquire the vital skills that are high in demand and necessary to further their careers.
- Businesses can use this data to make well-informed hiring decisions and cut costs on outdated technologies.

RECOMMENDATIONS

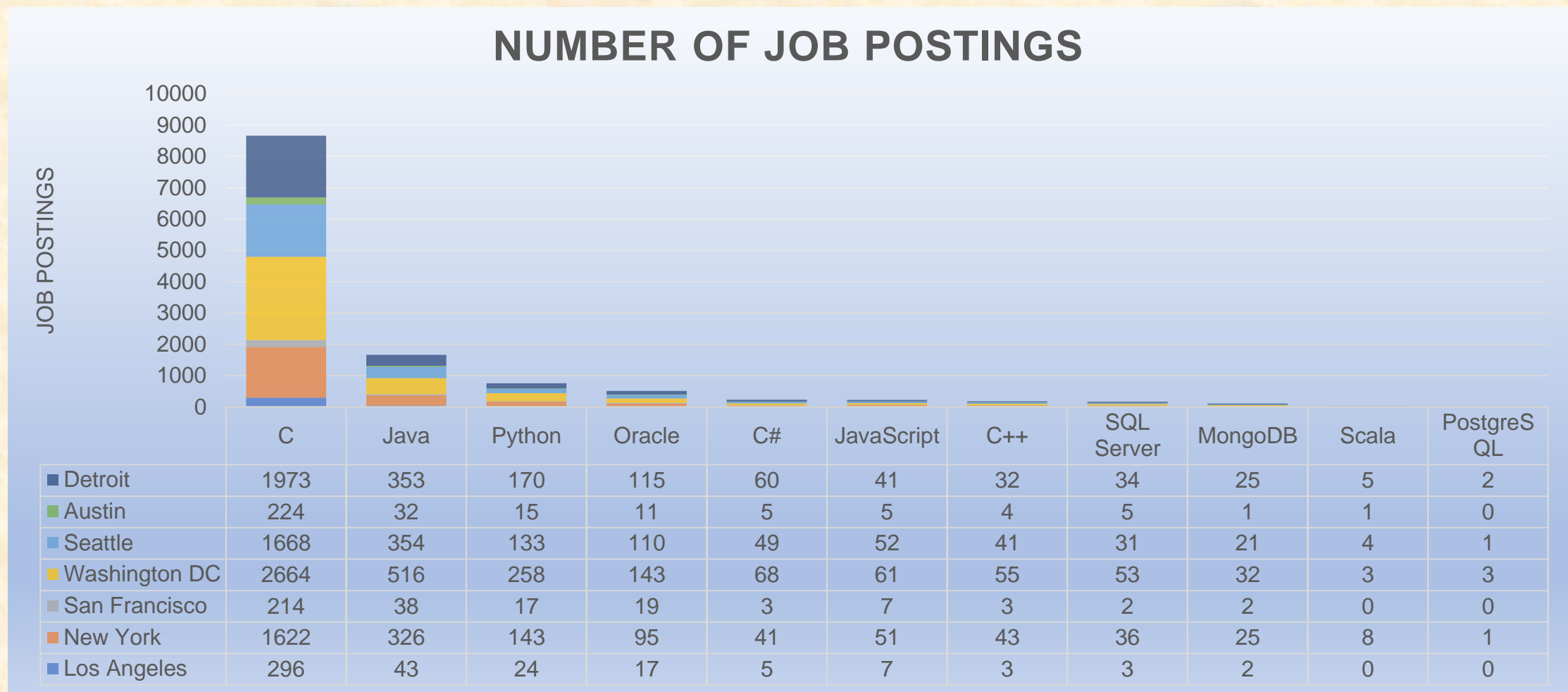
- Employers in the IT field should focus on hiring competent people with the relevant skills irrespective of gender, age, country, educational background and other discriminatory factors.
- IT firms and businesses should look into what technologies are trending, for what reasons and whether it can be useful for them to adopt these technologies in any aspect.
- Developers should hone their knowledge and expertise in the core skills that are and will be trending in the IT field, this will make it easier get hired and acquire more experience resulting in growth, broader skillset and a successful career.

APPENDIX



- In the following two slides, I have created visualizations regarding the number of job postings in programming languages based on 7 different states and the average annual salaries of developers based on popular programming languages.

JOB POSTINGS



POPULAR LANGUAGES

