



IBM Data Analyst Capstone Project

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OUTLINE



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EXECUTIVE SUMMARY



- IT industry is a competitive and ever changing industry which require constant refine new programing skill and DataBases. This project is used to analyze the trends
- This project is used to analyze the trend:
 - Current Technology Usage
 - Future Technology Trend
 - Demographics in IT industry
- The project is to identify the top programming languages
- Identifying top database skills in demand
- Popular IDEs

INTRODUCTION



- This presentation report uses data analytics to highlight current and projected trends in the need for skills related to programming languages, databases, platforms and web frames.
- The following inquiries were investigated using the data:
 1. Which programming languages are most in demand today?
 2. What are the most in-demand database skills?
 3. What popular IDEs or Web frames are there?
- The target audience for this research are IT professionals, HR managers, and anybody else with an interest in the IT sector who wants to learn about the top on-demand IT skills in their respective sectors that will also still be relevant in the future.

METHODOLOGY



- Collect survey data & explore its content
 - Web Scraping
 - APIs.
 - Request library.
- Data Wrangling
- Exploratory data analysis
 - Analyzing data distribution.
 - Handling outliers.
 - Correlations.
- Data Visualization
 - Highlight distribution of data, relationships, the composition and comparison of data.
- Dashboards

RESULTS

The Results shown as follows are the analysis comparing the graphs between the current technology usage and Future technology usage.

Results as follows:

1. Programming Language trends

2. DataBase trends

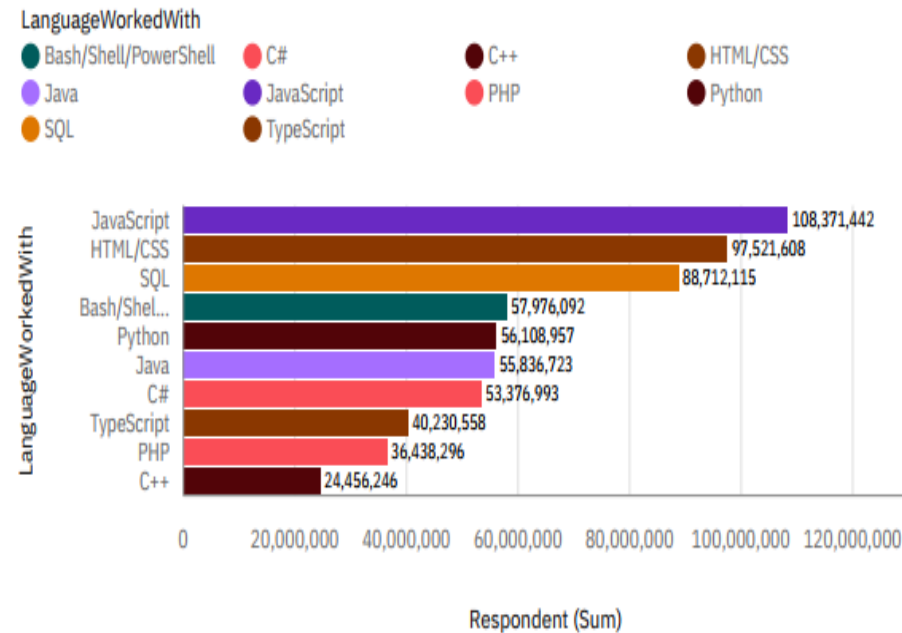
3. IDEs trends

PROGRAMMING LANGUAGE TRENDS

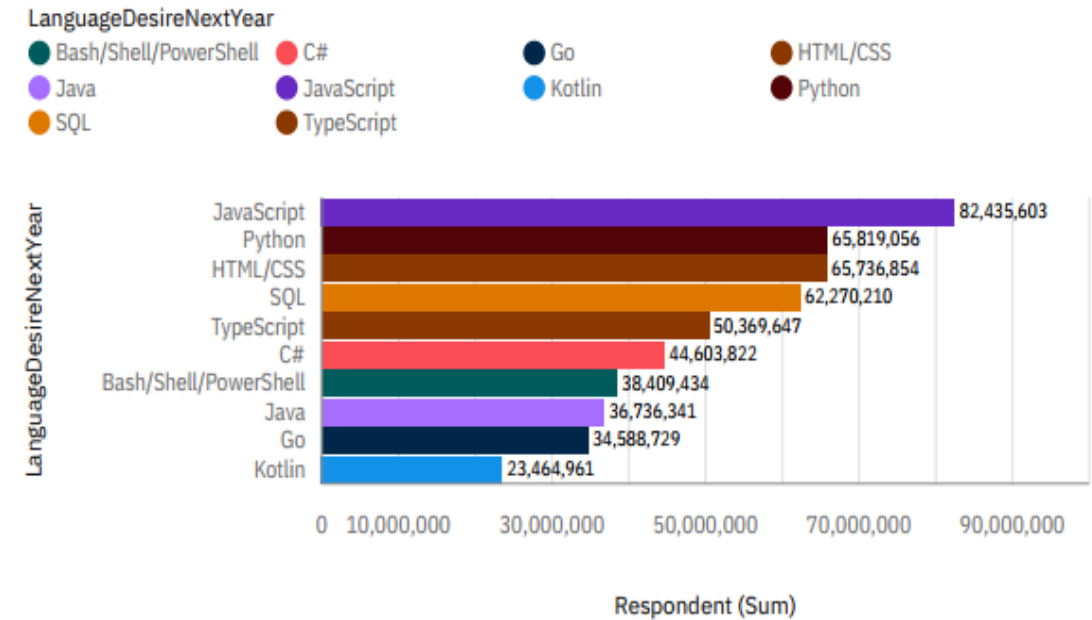
Current Year

Next Year

Top 10 LanguageWorkedWith



Top 10 LanguageDesireNextYear



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript is the most in demand programming language.
- Python, HTML/CSS, and SQL are other in demand programming languages.
- Skills in TypeScript is more desirable than Bash/Shell/PowerShell for next year.

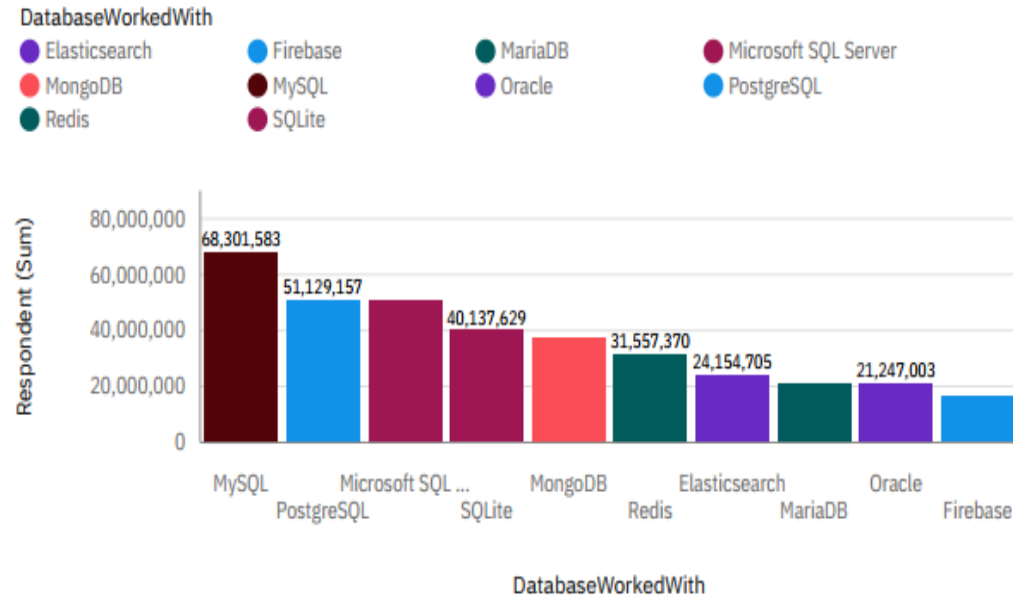
Implications

- Python's increase in demand may overtake JavaScript in the future.
- JavaScript, Python, HTML/CSS, and SQL are consistently in demand.
- Web development remains in high demand.

DATABASE TRENDS

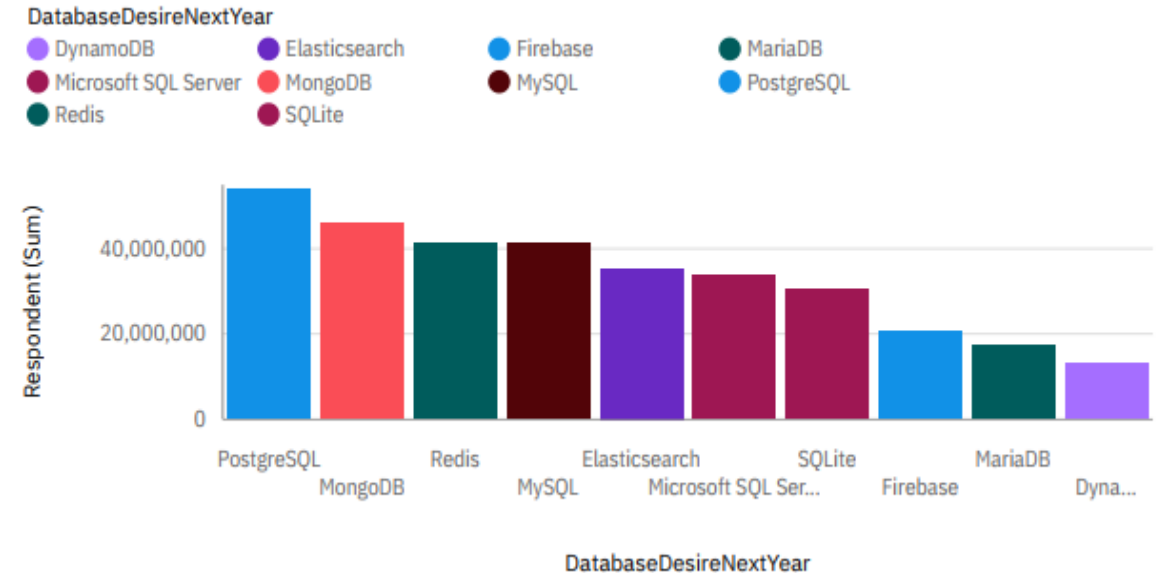
Current Year

Top 10 DatabaseWorkedWith



Next Year

Top 10 DatabaseDesireNextYear



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL as most used database.
- Lack of interest in Microsoft SQL Server and SQLite.
- Increasing interest in PostgreSQL and MongoDB.

Implications

- Microsoft SQL Server and SQLite losing ground in the market.
- PostgreSQL and MongoDB establishment in the market.

DASHBOARD

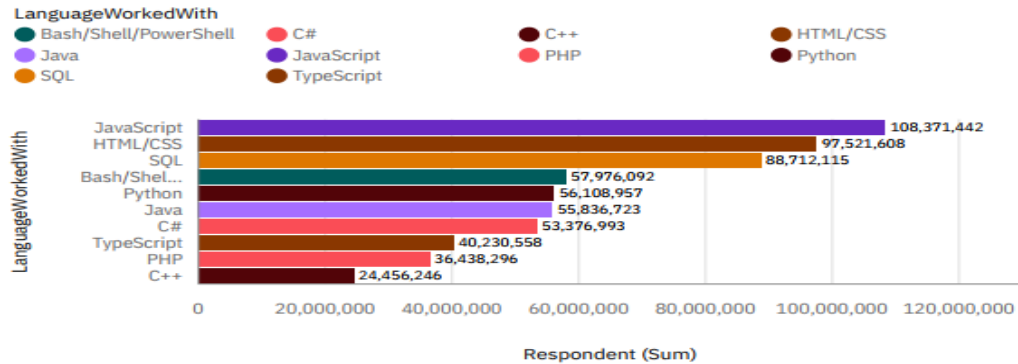


<https://github.com/imadomar64/IBM-Data-Analyst-Professional-Certificate/blob/main/Current%20Technology%20Usage.pdf>

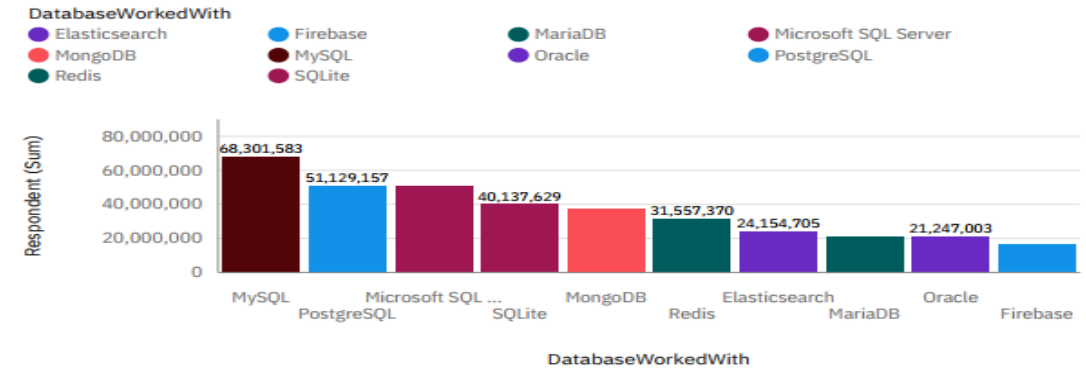
DASHBOARD TAB 1

Current Technology Usage

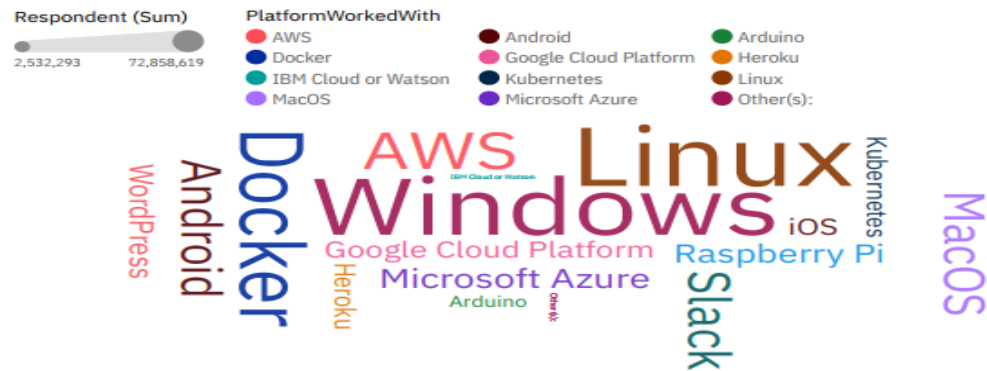
Top 10 LanguageWorkedWith



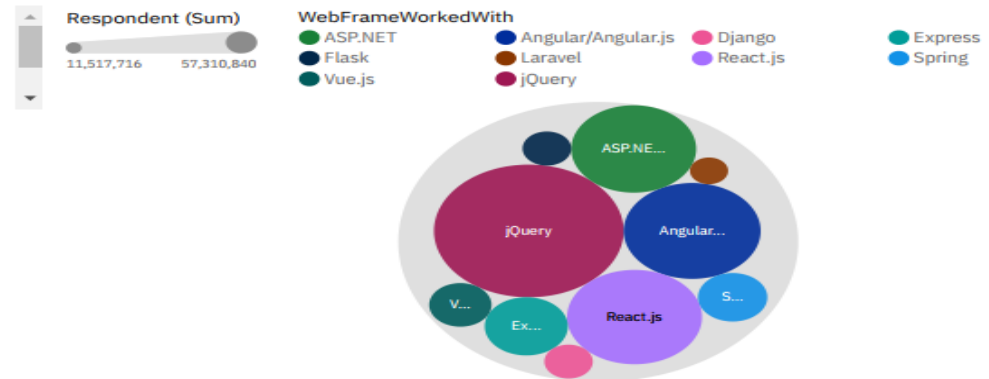
Top 10 DatabaseWorkedWith



PlatformWorkedWith



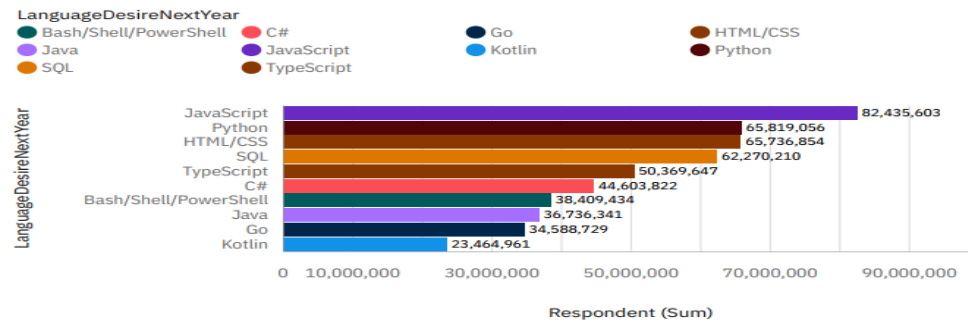
Top 10 WebFrameWorkedWith



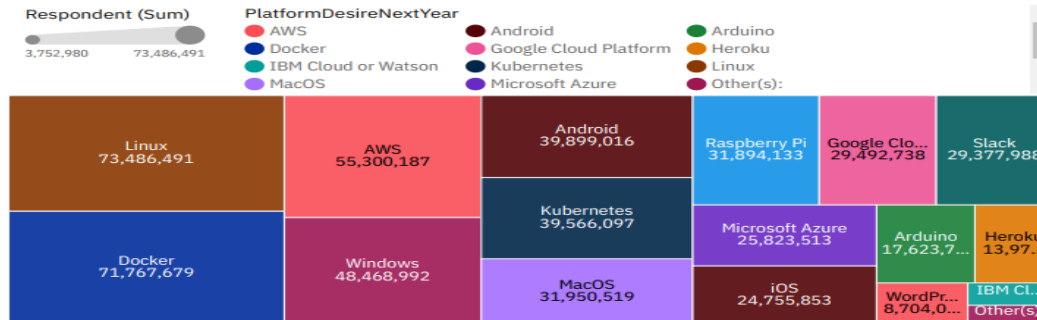
DASHBOARD TAB 2

Future Technology Trend

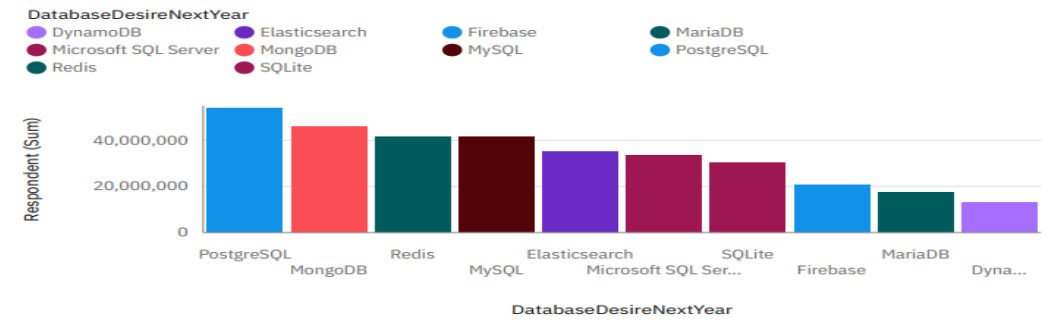
Top 10 LanguageDesireNextYear



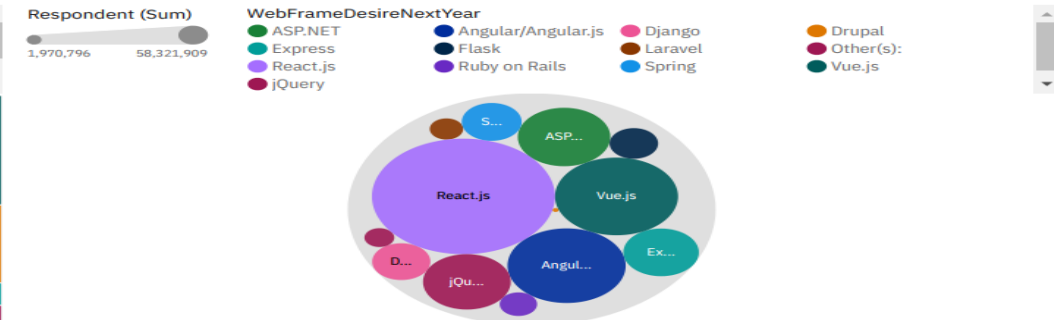
PlatformDesireNextYear



Top 10 DatabaseDesireNextYear



Top 10 WebFrameDesireNextYear

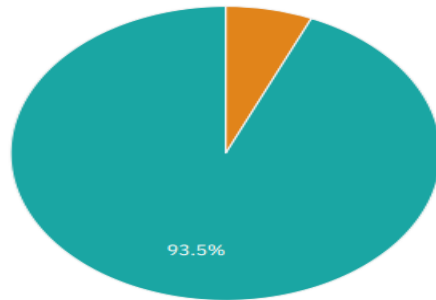


DASHBOARD TAB 3

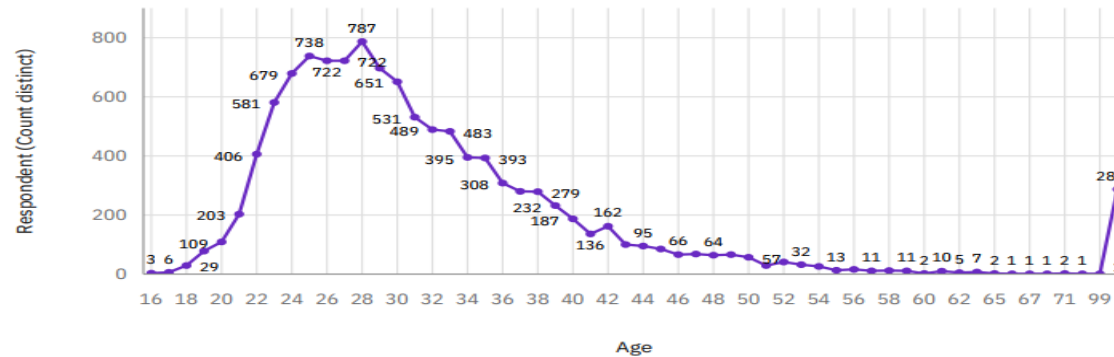
Future Technology Trend

Respondent classified by Gender

Gender
Woman Man

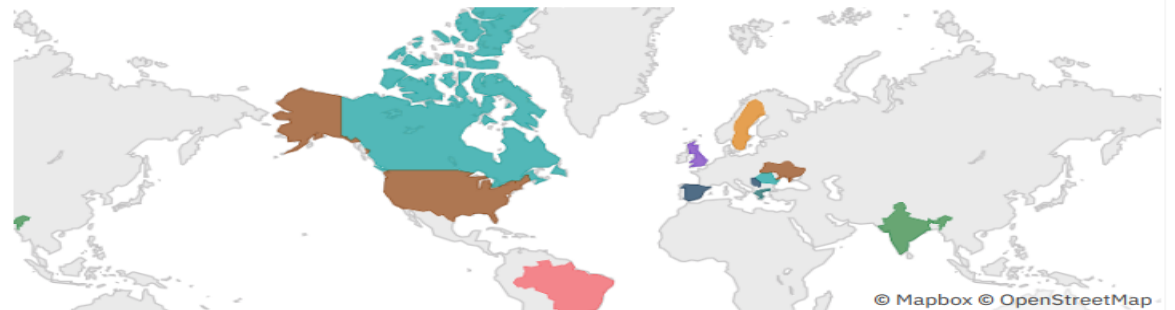


Respondent Count by Age

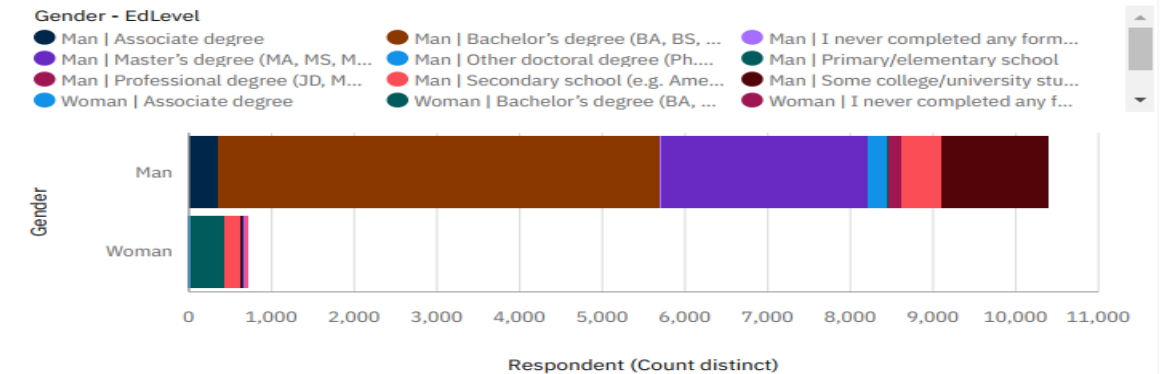


Respondent Count for Countries

Respondent
2092 2101 2109 2113 2115 2116 2141 2105 2128 2134 2090 2091
2102 2131 2135 2137 2095 2097 2124 2143



Respondent Count by Gender, classified by Formal



DISCUSSION



- For future skills requirements and recommendations:
 1. What are the Skill must have? Or DESIRE to be in the industry?
 2. Top programming languages FutureDesire are:
 - JavaScripts, Python, HTML/CSS,SQL,TypeScript have become the new desire programming language that are gaining popularity in the IT industry
 3. Top Database Skills:
 - PostgreSQL, MongoDB,Redis, MySQL, Elasticsearch are becoming more sought after as compared to current most popular databases that people worked with.
 4. Popular IDEs:
 - React.js,Angular/Angular.js,Vue

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScripts, Python, HTML/CSS,SQL,TypeScript are the new desire programming language
- PostgreSQL, MongoDB,Redis, MySQL, Elasticsearch are the new desired Database
- React.js,Angular/Angular.js,Vue.js , jquery and ASP.net are the popular IDEs
- The trends shows a drastic changes in Desire for nextyear programming languages, Database and IDEs

Implications

- Future Skills Requirements implements:
- Programming Language:
 - JavaScripts, Python, HTML/CSS,SQL,TypeScript
- Database:
 - PostgreSQL, MongoDB,Redis, MySQL, Elasticsearch
- IDEs:
 - React.js,Angular/Angular.js,Vue.js , jquery and ASP.net
- There are a few Databases that are also increasingly desire such like DynamoBd
- The numbers of Skills requirements to be able to be competitive in the IT industry has been changing in the vast development and redefine of current techonoly.

CONCLUSION

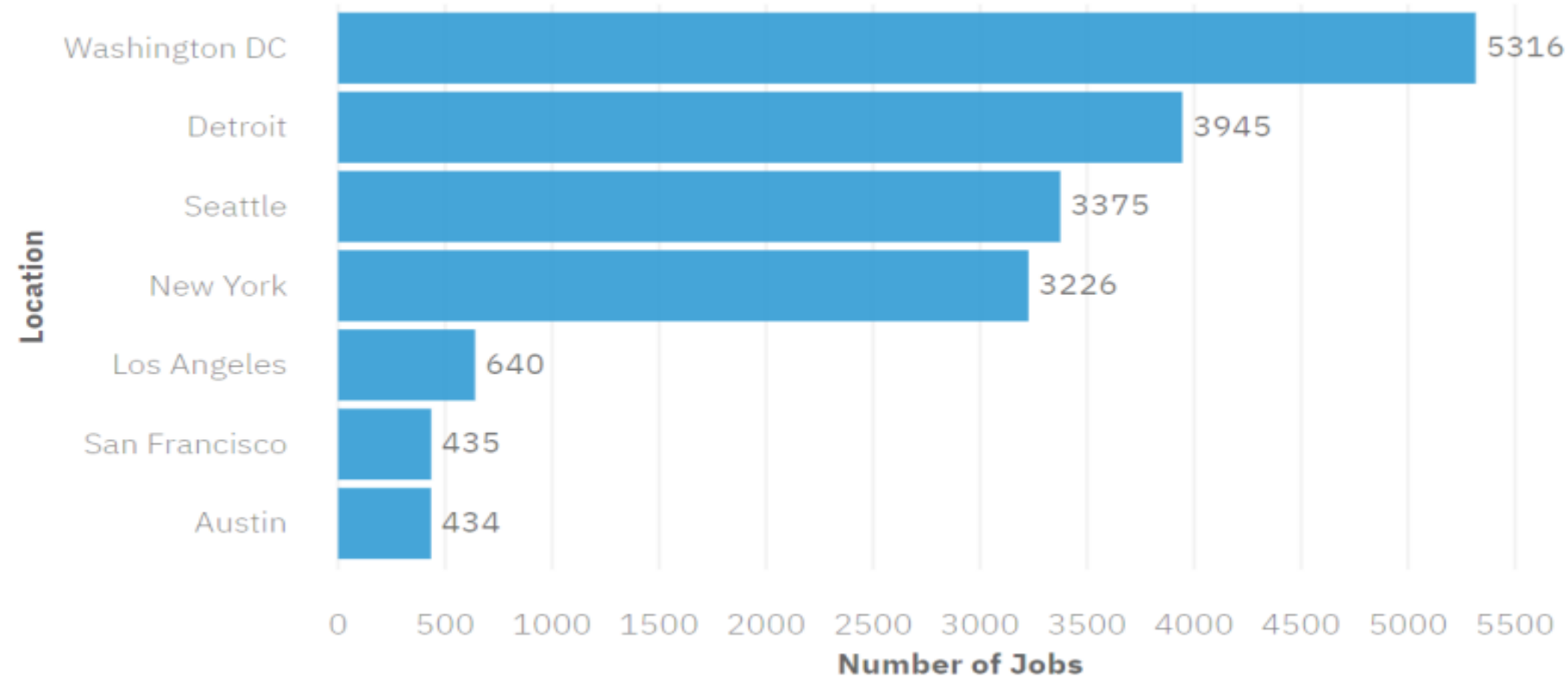


- • Developers are people with very marked characteristics.
- • A good idea of popularity trends of different tools, platforms and languages can be obtained.
- • There is a job to be done to spread accessibility of this labor market to countries in development.

APPENDIX



JOB POSTINGS



POPULAR LANGUAGES

